SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS
OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

1. REQUISITION NUMBER	PAGE 1 OF

2. CONTRACT NO.	3. AWARD/EFFECTIVE DATE	4. ORDER NUMBER	5. SOLICITATION NUMBER	6. SOLICITATION ISSUE DATE
			N65236-97-R-0345	97JUL17

7. FOR SOLICITATION INFORMATION CALL:	a. NAME	b. TELEPHONE NUMBER *(No collect calls)*	8. OFFER DUE DATE/ LOCAL TIME
	NINA BURGSTEINER	(803) 743-4362	97AUG18 /3:00 P.M.

9. ISSUED BY CODE N65236

NISE EAST
P.O. BOX 190022
NORTH CHARLESTON, SC 29419-9022
POC: NINA BURGSTEINER CODE: 1115NB
TELEPHONE: (803) 743-4362

E-MAIL: BURGSTEN@NISEEAST.NOSC.MIL

10. THIS ACQUISITION IS
- ☒ UNRESTRICTED
- ☐ SET ASIDE: % FOR
  - ☐ SMALL BUSINESS
  - ☐ SMALL DISADV. BUSINESS
  - ☐ 8(A)

SIC: 3663
SIZE STANDARD: 750

11. DELIVERY FOR DESTINATION UNLESS BLOCK IS MARKED
☐ SEE SCHEDULE

12. DISCOUNT TERMS

☐ 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING

14. METHOD OF SOLICITATION
☐ RFQ ☐ IFB ☒ RFP

15. DELIVER TO CODE N65236

RECEIVING OFFICER
NISE EAST DET., NORFOLK CODE 514
ST. JULIENS CREEK ANNEX, PORTSMOUTH, VA 23702

16. ADMINISTERED BY CODE

17a. CONTRACTOR/ OFFEROR CODE FACILITY

TELEPHONE NO.

18a. PAYMENT WILL BE MADE BY CODE

☐ 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED ☐ SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	"SEE ATTACHED SECTION B"				
	(Attach Additional Sheets as Necessary)				

25. ACCOUNTING AND APPROPRIATION DATA

26. TOTAL AWARD AMOUNT *(For Govt. Use Only)*

☒ 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA ☐ ARE ☒ ARE NOT ATTACHED.
☐ 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA ☐ ARE ☐ ARE NOT ATTACHED.

28. ☐ CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN __ COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.

29. ☐ AWARD OF CONTRACT: REFERENCE _____OFFER DATED _____. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED TO ITEMS:

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA *(SIGNATURE OF CONTRACTING OFFICER)*

30b. NAME AND TITLE OF SIGNER *(TYPE OR PRINT)* 30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER *(TYPE OR PRINT)* 31c. DATE SIGNED

32a. QUANTITY IN COLUMN 21 HAS BEEN
☐ RECEIVED ☐ INSPECTED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED

32b. SIGNATURE OF AUTHORIZED GOVT. REPRESENTATIVE 32c. DATE

33. SHIP NUMBER
PARTIAL FINAL

34. VOUCHER NUMBER

35. AMOUNT VERIFIED CORRECT FOR

36. PAYMENT
☐ COMPLETE ☐ PARTIAL ☐ FINAL

37. CHECK NUMBER

38. S/R ACCOUNT NUMBER

39. S/R VOUCHER NUMBER

40. PAID BY

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT

41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER 41c. DATE

42a. RECEIVED BY *(Print)*

42b. RECEIVED AT *(Location)*

42c. DATE REC'D *(YY/MM/DD)* 42d. TOTAL CONTAINERS

STANDARD FORM 1449 (10-95)

SECTION B
LOT I - BASE YEAR

SECTION - SUPPLIES OR SERVICES AND PRICES/COST - Radio

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0001	**Digital wideband transmission system (DWTS) Radio Subsystem- Radio per specification C.2**				
0001AA	DWTS Radio Subsystem - Radio Normal delivery schedule	31	EA	_____	_____
0001AB	DWTS Radio Subsystem - Radio Rapid delivery schedule	12	EA	_____	_____
0002	DWTS Radio Subsystem - Conditioned Diphase Interface Adapter per specification C.2.3.22 If not available, mark N/A	43	EA	_____	_____
0003	DWTS Radio Subsystem Remote Control Unit per specification C.2.3.7. If not available, mark N/A	17	EA	_____	_____
0004	**DWTS Radio Subsystem Commercial Technical Documentation including Manuals (Operator, Maintenance, Parts List, and Drawings)**				
0004AA	DWTS Radio Subsystem Operator Manuals (Covers CLINs 0001, 0002, 0003)	43	EA	NSP	NSP (price included in CLIN 0001)
0004AB	DWTS Radio Subsystem Maintenance Manuals (Covers CLINs 0001, 0002, 0003)	43	EA	NSP	NSP (price included in CLIN 0001)
0004AC	DWTS Radio Subsystem Hierarchical Parts List (Covers CLINs 0001, 0002, 0003)	48	EA	NSP	NSP (price included in CLIN 0001)
0004AD	DWTS Radio Subsystem Drawings (Covers CLINs 0001, 0002, 0003)	43	LOT	NSP	NSP (price included in CLIN 0001)

0004AE	DWTS Radio Subsystem Test Plan for CLIN 0001, 0002, 0003 per specification C.2.5.2.	1	EA	NSP	NSP (price included in CLIN 0001)
0004AF	DWTS Radio Subsystem Acceptance Plan for CLIN 0001, 0002, 0003 per specification C.2.5.2.	1	EA	NSP	NSP (price included in CLIN 0001)
0004AG	DWTS Radio Subsystem Test Report for CLIN 0001, 0002, 0003 per specification C.2.5.4.	5	EA	NSP	NSP (price included in CLIN 0001)
0004AH	DWTS Radio Subsystem Acceptance Report for CLIN 0001, 0002, 0003 per specification C.2.5.4.	103	EA	NSP	NSP (price included in CLIN 0001)
0004AJ	DWTS Radio Subsystem Frequency Allocation Data	1	LOT	NSP	NSP (price included in CLIN 0001)
0005	**DWTS Radio Subsystem - Repair Parts for CLIN 0001, 0002, 0003 per specification C.2.2.34**				
0005AA	DWTS Radio Subsystem - Repair Parts for Radio CLIN 0001	1	LOT	_____	_____
0005AB	DWTS Radio Subsystem Repair Parts for Conditioned Diphase Interface Adapter CLIN 0002	1	LOT	_____	_____
0005AC	DWTS Radio Subsystem Repair Parts for Remote Control Unit CLIN 0003	1	LOT	_____	_____
0006	DWTS Radio Subsystem Operation and Maintenance Training.	4	LOT	_____	_____
0007	DWTS Radio Subsystem Computer Based Training Software	19	EA	_____	_____
0008	**DWTS Radio Subsystem Warranty**				
0008AA	Warranty - Radio	43	EA	NSP	NSP (price included in CLIN 0001)
0008AB	Warranty - Conditioned Diphase Interface Adapter	43	EA	NSP	NSP (price included in

					CLIN 0002)
0008AC	Warranty - Remote Control Unit	17	EA	NSP	NSP (price included in CLIN 0003)
0009	DWTS Radio Subsystem Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP(price included in CLIN 0001)
0010	DWTS Radio Subsystem Test Equipment. If not required then mark N/A	1	LOT	_____	_____

LOT II - BASE YEAR

SUPPLIES OR SERVICES AND PRICES/COST FOR ANTENNA

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0011	DWTS Antenna per specification C.3.	79	EA	_____	_____
0012	**DWTS Antenna Commercial Technical Documentation**				
0012AA	DWTS Antenna Test Plan per specification C.3.5.2	1	EA	NSP	NSP (price included in 0011)
0012AB	DWTS Antenna Acceptance Plan per specification C.3.5.2	1	EA	NSP	NSP (price included in 0011)
0012AC	DWTS Antenna Test Report for CLIN 0011 per specification C.3.5.4	2	EA	NSP	NSP (price included in 0011)
0012AD	DWTS Antenna Acceptance Reports for CLIN 0011 per specification C.3.5.4	79	EA	NSP	NSP (price included in 0011)
0012AE	DWTS Antenna Installation Instructions	10	LOT	NSP	NSP (price included in 0011)

0012AF	DWTS Antenna Frequency Allocation Data	1	LOT	NSP	NSP (price included in 0011)
0013	DWTS Antenna Warranty - Antenna	79	EA	NSP	NSP (price included in CLIN 0011)
0014	DWTS Antenna Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0011)

LOT III - BASE YEAR

SUPPLIES OR SERVICES AND PRICES/COST FOR RF POWER AMPLIFIER

CLIN	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	AMOUNT
0015	DWTS Radio Frequency (RF) Power Amplifier as per specification C.4.	43	EA	_____	_____
0016	**DWTS RF Power Amplifier Commercial Technical Documentation**				
0016AA	DWTS RF Power Amplifier Operator Manuals	43	LOT	NSP	NSP (price included in CLIN 0015)
0016AB	DWTS RF Power Amplifier Maintenance Manuals	43	LOT	NSP	NSP (price included in CLIN 0015)
0016AC	DWTS RF Power Amplifier Hierarchical Parts List	48	LOT	NSP	NSP (price included in CLIN 0015)
0016AD	DWTS RF Power Amplifier Drawings	43	LOT	NSP	NSP (price included in CLIN 0015)
0016AE	DWTS RF Power Amplifier Test Plan for CLIN 0015 per specification C.4.5.2	1	EA	NSP	NSP (price included in CLIN 0015)

0016AF	DWTS RF Power Amplifier Acceptance Plan for CLIN 0015 per specification C.4.5.2	1	EA	NSP	NSP (price included in CLIN 0015)
0016AG	DWTS RF Power Amplifier Test Report for CLIN 0015 per specification C.4.5.4	2	EA	NSP	NSP (price included in CLIN 0015)
0016AH	DWTS RF Power Amplifier Acceptance Reports for CLIN 0015 per specification C.4.5.4	43	EA	NSP	NSP (price included in CLIN 0015)
0016AJ	DWTS RF Power Amplifier Frequency Allocation Data	1	LOT	NSP	NSP (price included in CLIN 0015)
0017	DWTS RF Power Amplifier repair parts for CLIN 0015 per specification C.4.2.19.	1	LOT	_____	_____
0018	Warranty - RF Power Amplifier	43	EA	NSP	NSP (price included in CLIN 0015
0019	DWTS RF Power Amplifier Technical Documentation - Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0015
0020	DWTS RF Power Amplifier Operation/Maintenance Training	4	LOT	_____	_____

LOT IV - OPTION YEAR 1

SUPPLIES OR SERVICES AND PRICES/COST FOR RADIO

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0021	DWTS Radio Subsystem - Radio normal schedule(300 days after issuing delivery order (DAIDO))	22	EA	_____	_____
0022	DWTS Radio Subsystem - Conditioned Diphase Interface Adapter per specification C.2.3.22. If not available then mark N/A.	22	EA	_____	_____
0023	DWTS Radio Subsystem Remote Control Unit per specification C.2.3.7. If not available then mark N/A.	8	EA	_____	_____

0024	**DWTS Radio Subsystem Commercial Technical Documentation including Manuals (Operator, Maintenance, Parts List, and Drawings)**				
0024AA	DWTS Radio Subsystem Operator Manuals (Covers CLINs 0021, 0022, 0023)	22	EA	NSP	NSP (price included in CLIN 0021)
0024AB	DWTS Radio Subsystem Maintenance Manuals (Covers CLINs 0021, 0022, 0023)	22	EA	NSP	NSP (price included in CLIN 0021)
0024AC	DWTS Radio Subsystem Hierarchical Parts List (Covers CLINs 0021, 0022, 0023)	22	EA	NSP	NSP (price included in CLIN 0021)
0024AD	DWTS Radio Subsystem Drawings (Covers CLINs 0021, 0022, 0023)	22	LOT	NSP	NSP (price included in CLIN 0021)
0024AE	DWTS Radio Subsystem Acceptance Report for CLIN 0021, 0022, 0023 per specification C.2.5.4	52	EA	NSP	NSP (price included in CLIN 0021)
0025	**DWTS Radio Subsystem - Repair Parts for CLIN 0021, 0022, 0023 per specification C.2.2.34**				
0025AA	DWTS Radio Subsystem - Repair Parts for Radio CLIN 0021	1	LOT	_____	_____
0025AB	DWTS Radio Subsystem Repair Parts for Conditioned Diphase Interface Adapter CLIN 0022	1	LOT	_____	_____
0025AC	DWTS Radio Subsystem Repair Parts for Remote Control Unit CLIN 0023	1	LOT	_____	_____
0026	DWTS Radio Subsystem Operation and Maintenance Training.	2	LOT	_____	_____
0027	DWTS Radio Subsystem Computer Based Training Software	8	EA	_____	_____
0028	**DWTS Radio Subsystem Warranty**				

0028AA	Warranty - Radio	22	EA	NSP	NSP (price included in CLIN 0021)
0028AB	Warranty - Conditioned Diphase Interface Adapter	22	EA	NSP	NSP (price included in CLIN 0022)
0028AC	Warranty - Remote Control Unit	8	EA	NSP	NSP (price included in CLIN 0023)
0029	DWTS Radio Subsystem Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP(Price included in CLIN 0021)
0030	DWTS Radio Subsystem Test Equipment. If not required then mark N/A	1	LOT	_____	_____

LOT V - OPTION YEAR 1

SUPPLIES OR SERVICES AND PRICES/COST FOR ANTENNA

CLIN	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	AMOUNT
0031	DWTS Antenna per specification C.3.	40	EA	_____	_____
0032	DWTS Antenna Acceptance Reports for CLIN 0031 per specification C.3.5.4	40	EA	NSP	NSP (price included in 0031)
0033	DWTS Antenna Warranty - Antenna	40	EA	NSP	NSP (price included in CLIN 0031)
0034	DWTS Antenna Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0031)

LOT VI - OPTION YEAR 1

SECTION - SUPPLIES OR SERVICES AND PRICES/COST - RF Power Amplifier

CLIN	DESCRIPTION	EST QTY	UNIT	UNIT PRICE	AMOUNT
0035	DWTS Radio Frequency (RF) Power Amplifier as per specification C.4.	22	EA	_____	_____
0036	**DWTS RF Power Amplifier Commercial Technical Documentation**				
0036AA	DWTS RF Power Amplifier Operator Manuals	22	LOT	NSP	NSP (price included in CLIN 0035)
0036AB	DWTS RF Power Amplifier Maintenance Manuals	22	LOT	NSP	NSP (price included in CLIN 0035)
0036AC	DWTS RF Power Amplifier Hierarchical Parts List	22	LOT	NSP	NSP (price included in CLIN 0035)
0036AD	DWTS RF Power Amplifier Drawings	22	LOT	NSP	NSP (price included in CLIN 0035)
0036AE	DWTS RF Power Amplifier Acceptance Reports for CLIN 0035 per specification C.4.5.4	22	EA	NSP	NSP (price included in CLIN 0035)
0037	DWTS RF Power Amplifier repair parts for CLIN 0035 per specification C.4.2.19.	1	LOT	_____	_____
0038	Warranty - RF Power Amplifier	22	EA	NSP	NSP (price included in CLIN 0035)
0039	DWTS RF Power Amplifier Technical Documentation - Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0035)
0040	DWTS RF Power Amplifier Operation/Maintenance Training	2	LOT	_____	_____

LOT VII - OPTION YEAR 2

SUPPLIES OR SERVICES AND PRICES/COST FOR RADIO

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0041	DWTS Radio Subsystem - Radio normal schedule(300 days after issuing delivery order (DAIDO))	12	EA	_____	_____
0042	DWTS Radio Subsystem - Conditioned Diphase Interface Adapter per specification C.2.3.22. If not available then mark N/A.	12	EA	_____	_____
0043	DWTS Radio Subsystem Remote Control Unit per specification C.2.3.7. If not available then mark N/A.	5	EA	_____	_____
0044	**DWTS Radio Subsystem Commercial Technical Documentation including Manuals (Operator, Maintenance, Parts List, and Drawings)**				
0044AA	DWTS Radio Subsystem Operator Manuals (Covers CLINs 0041, 0042, 0043)	12	EA	NSP	NSP (price included in CLIN 0041)
0044AB	DWTS Radio Subsystem Maintenance Manuals (Covers CLINs 0041, 0042, 0043)	12	EA	NSP	NSP (price included in CLIN 0041)
0044AC	DWTS Radio Subsystem Hierarchical Parts List (Covers CLINs 0041, 0042, 0043)	12	EA	NSP	NSP (price included in CLIN 0041)
0044AD	DWTS Radio Subsystem Drawings (Covers CLINs 0041, 0042, 0043)	12	LOT	NSP	NSP (price included in CLIN 0041)
0044AE	DWTS Radio Subsystem Acceptance Report for CLIN 0041, 0042, 0043 per Specification C.2.5.4	29	EA	NSP	NSP (price included in CLIN 0041)

0045	**DWTS Radio Subsystem - Repair Parts for CLIN 0041, 0042, 0043 per specification C.2.2.34**				
0045AA	DWTS Radio Subsystem - Repair Parts for Radio CLIN 0041	1	LOT	_____	_____
0045AB	DWTS Radio Subsystem Repair Parts for Conditioned Diphase Interface Adapter CLIN 0042	1	LOT	_____	_____
0045AC	DWTS Radio Subsystem Repair Parts for Remote Control Unit CLIN 0043	1	LOT	_____	_____
0046	DWTS Radio Subsystem Operation and Maintenance Training.	2	LOT	_____	_____
0047	DWTS Radio Subsystem Computer Based Training Software	5	EA	_____	_____
0048	**DWTS Radio Subsystem Warranty**				
0048AA	Warranty - Radio	12	EA	NSP	NSP (price included in CLIN 0041)
0048AB	Warranty - Conditioned Diphase Interface Adapter	12	EA	NSP	NSP (price included in CLIN 0042)
0048AC	Warranty - Remote Control Unit	5	EA	NSP	NSP (price included in CLIN 0043)
0049	DWTS Radio Subsystem Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP(price included in CLIN 0041)
0050	DWTS Radio Subsystem Test Equipment. If not required then mark N/A	1	LOT	_____	_____

LOT VIII - OPTION YEAR 2

SUPPLIES OR SERVICES AND PRICES/COST FOR ANTENNA

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0051	DWTS Antenna per specification C.3.	23	EA	_____	_____
0052	DWTS Antenna Acceptance Reports for CLIN 0051 per specification C.3.5.4	23	EA	NSP	NSP (price included in 0051)
0053	DWTS Antenna Warranty - Antenna	23	EA	NSP	NSP (price included in CLIN 0051)
0054	DWTS Antenna Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0051)

LOT IX - OPTION YEAR 2

SUPPLIES OR SERVICES AND PRICES/COST FOR RF POWER AMPLIFIER

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0055	DWTS Radio Frequency (RF) Power Amplifier as per specification C.4.	12	EA	_____	_____
0056	**DWTS RF Power Amplifier Commercial Technical Documentation**				
0056AA	DWTS RF Power Amplifier Operator Manuals	12	LOT	NSP	NSP (price included in CLIN 0055)
0056AB	DWTS RF Power Amplifier Maintenance Manuals	12	LOT	NSP	NSP (price included in CLIN 0055)
0056AC	DWTS RF Power Amplifier Hierarchical Parts List	12	LOT	NSP	NSP (price included in CLIN 0055)

0056AD	DWTS RF Power Amplifier Drawings	12	LOT	NSP	NSP (price included in CLIN 0055)
0056AE	DWTS RF Power Amplifier Acceptance Reports for CLIN 0055 per specification C.4.5.4	12	EA	NSP	NSP (price included in CLIN 0055)
0057	DWTS RF Power Amplifier repair parts for CLIN 0055	1	LOT	_____	_____
0058	Warranty - RF Power Amplifier	12	EA	NSP	NSP (price included in CLIN 0055)
0059	DWTS RF Power Amplifier Technical Documentation - Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0055)
0060	DWTS RF Power Amplifier Operation/Maintenance Training	2	LOT	_____	_____

LOT X - OPTION YEAR 3

SUPPLIES OR SERVICES AND PRICES/COST FOR RADIO

CLIN	DESCRIPTION	EST QTY	Unit of Issue	UNIT PRICE	AMOUNT
0061	DWTS Radio Subsystem - Radio normal schedule(300 days after issuing delivery order (DAIDO))	8	EA	_____	_____
0062	DWTS Radio Subsystem - Conditioned Diphase Interface Adapter per specification C.2.3.22. If not available then mark N/A.	8	EA	_____	_____
0063	DWTS Radio Subsystem Remote Control Unit per specification C.2.3.7. If not available then mark N/A.	3	EA	_____	_____

0064	**DWTS Radio Subsystem Commercial Technical Documentation including Manuals (Operator, Maintenance, Parts List, and Drawings)**				
0064AA	DWTS Radio Subsystem Operator Manuals (Covers CLINs 0061, 0062, 0063)	8	EA	NSP	NSP (price included in CLIN 0061)
0064AB	DWTS Radio Subsystem Maintenance Manuals (Covers CLINs 0061, 0062, 0063)	8	EA	NSP	NSP (price included in CLIN 0061)
0064AC	DWTS Radio Subsystem Hierarchical Parts List (Covers CLINs 0061, 0062, 0063)	8	EA	NSP	NSP (price included in CLIN 0061)
0064AD	DWTS Radio Subsystem Drawings (Covers CLINs 0061, 0062, 0063)	8	LOT	NSP	NSP (price included in CLIN 0061)
0064AE	DWTS Radio Subsystem Acceptance Report for CLIN 0061, 0062, 0063 per specification C.2.5.4	19	EA	NSP	NSP (price included in CLIN 0061)
0065	**DWTS Radio Subsystem - Repair Parts for CLIN 0061, 0062, 0063 per Specification C.2.2.34**				
0065AA	DWTS Radio Subsystem - Repair Parts for Radio CLIN 0061	1	LOT	_____	_____
0065AB	DWTS Radio Subsystem Repair Parts for Conditioned Diphase Interface Adapter CLIN 0062	1	LOT	_____	_____
0065AC	DWTS Radio Subsystem Repair Parts for Remote Control Unit CLIN 0063	1	LOT	_____	_____

0066	DWTS Radio Subsystem Computer Based Training Software	3	EA	_____	_____
0067	**DWTS Radio Subsystem Warranty**				
0067AA	Warranty - Radio	8	EA	NSP	NSP (price included in CLIN 0061)
0067AB	Warranty - Conditioned Diphase Interface Adapter	8	EA	NSP	NSP (price included in CLIN 0062)
0067AC	Warranty - Remote Control Unit	3	EA	NSP	NSP (price included in CLIN 0063)
0068	DWTS Radio Subsystem Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP(price included in CLIN 0061)
0069	DWTS Radio Subsystem Test Equipment. If not required then mark N/A	1	LOT	_____	_____

LOT XI - OPTION YEAR 3

SUPPLIES OR SERVICES AND PRICES/COST FOR ANTENNA

CLIN	DESCRIPTION	EST QTY	Unit	UNIT PRICE	AMOUNT
0070	DWTS Antenna per specification C.3.	15	EA	_____	_____
0071AA	DWTS Antenna Acceptance Reports for CLIN 0071 per specification C.3.5.4	15	EA	NSP	NSP (price included in 0070)
0072	DWTS Antenna Warranty - Antenna	15	EA	NSP	NSP (price included in CLIN 0070)
0073	DWTS Antenna Technical Documentation Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0070)

LOT X11 - OPTION YEAR 3

SUPPLIES OR SERVICES AND PRICES/COST FOR RF POWER AMPLIFIER

CLIN	DESCRIPTION	EST QTY	Unit of Issue	UNIT PRICE	AMOUNT
0074	DWTS Radio Frequency (RF) Power Amplifier as per specification C.4.	8	EA	_____	_____
0075	**DWTS RF Power Amplifier Commercial Technical Documentation**				
0075AA	DWTS RF Power Amplifier Operator Manuals	8	LOT	NSP	NSP (price included in CLIN 0074)
0075AB	DWTS RF Power Amplifier Maintenance Manuals	8	LOT	NSP	NSP (price included in CLIN 0074)
0075AC	DWTS RF Power Amplifier Hierarchical Parts List	8	LOT	NSP	NSP (price included in CLIN 0074)
0075AD	DWTS RF Power Amplifier Drawings	8	LOT	NSP	NSP (price included in CLIN 0074)
0075AE	DWTS RF Power Amplifier Acceptance Reports for CLIN 0074 per specification C.4.5.4	8	EA	NSP	NSP (price included in CLIN 0074)
0076	DWTS RF Power Amplifier repair parts for CLIN 0074per specification C.4.2.19.	1	LOT	_____	_____
0077	Warranty - RF Power Amplifier	8	EA	NSP	NSP (price included in CLIN 0074)
0078	DWTS RF Power Amplifier Technical Documentation - Unlimited Reproduction Rights	1	LOT	NSP	NSP (price included in CLIN 0074)

B.1.1 Scope of Contract

This is a Fixed Price (FP) Indefinite Delivery, Indefinite Quantity (IDIQ) type contract. The contractor is required to furnish as set forth in each individual delivery order, equipment, supplies and services listed above in conformance with the terms and conditions of this contract. The quantities shown in the Contract Line Item Description are estimates only; the Government is not obligated to order these quantities. All items will be purchased through the issuance of individual delivery orders.

B.2.1 Pricing Instructions

The contractor is required to submit pricing for all items for which there is a space for pricing. Contract Sub-Line Items listed above. The format specified for each CLIN should be followed in completing this pricing. If a specific CLIN is not applicable to your proposed solution, that CLIN should be identified as not being applicable and no pricing information is required. In addition, it is requested that each offeror who believes that acquisitions in different quantities would be more advantageous is invited to recommend an economic purchase quantity. If different quantities are recommended, a total and unit price must be quoted for applicable items. An economic purchase quantity is that quantity at which a significant price break occurs. If there are significant price breaks at different quantity points, this information is desired as well. See Clause E.3, FAR 52.207-4, Economic Purchase Quantity – Supplies for more information.

Note**Charges for freight and other related charges, if any, are to be included in each unit price. The contract awarded for this solicitation will be for (1) one base year with three (3) additional option years. Offerors are requested to provide information regarding any quantity or other type discounts available for each item. However, offers will be evaluated using the total of the unit prices stated for each item in Section B.

SECTION C - - DESCRIPTIONS/SPECIFICATIONS/WORK STATEMENT

CLIN	DESCRIPTION
0001	The Digital Wideband Transmission System (DWTS) Radio Subsystem -Radio shall consist of the following :

(1) DWTS Radio per specification C.2.

(2) Sufficient operator replaceable items such as spare fuses and lamps for one year operation(as required) - contractor shall submit a list of expected fuse/bulb/other operator replaceable items sufficient to operate radio for one year which government will approve prior to contract award. The repair parts list is for minor fuse/bulb operator replaceable type parts only. The contractor shall supply the agreed amount of fuses/bulbs/other operator replaceable items with each radio upon delivery.

(3) Mating Connectors and Backshells - As per specification C.2.3.11, contractor shall submit all mating connectors and corresponding backshells minus Radio Frequency (RF) connectors. Connectors and backshells shall be commercially available from a minimum of at least two commercial vendors. Contractors shall supply mating connectors and backshells with each radio upon delivery.

(4) Handset - Contractor shall provide one handset per radio. The handset shall be packed with each Radio.

0001AA 0021, 0041 & 0061 DWTS Radio Subsystem -Radio - normal schedule (300 days after issuing delivery order (DAIDO)) - reference description for CLIN 0001 If this CLIN is executed, the contractor shall deliver as set forth in each individual delivery order, the number of radios per description in CLIN 0001 - delivery time shall be 300 DAIDO or less. Once CLIN is executed , the contractor shall submit delivery schedule to the government for each item.

0001AB DWTS Radio Subsystem -Radio - rapid schedule (120 DAIDO) reference description for CLIN 0001. If offeror proposes a fully functional radio under this subCLIN, required delivery is 120 DAIDO. If offeror proposes a less-than-fully-functional radio (Communicates but with less data rates and data modes) under this subCLIN, that radio shall be delivered as a partial delivery within 120 days after order and the upgrade kit required to make it a fully functional radio shall be delivered within 300 days after order at no additional charge. Once CLIN is executed, the contractor shall submit delivery schedule to the government for each item.

0002, 0022, 0042 & 0062 DWTS Radio Subsystem - Conditioned Diphase Interface Adapter (CDIA) per specification C.2.3.22. If not available then mark N/A. Conditioned Diphase Interface adapter shall include the following:

(1) Conditioned Diphase Interface Adapter per specification C.2.3.22

(2) Sufficient operator replaceable items such as spare fuses and lamps for one year operation(as required) - contractor shall submit a list of expected fuse/bulb/other operator replaceable items sufficient to operate CDIA for one year which government will approve prior to contract award. The repair parts list is for minor fuse/bulb operator replaceable type parts only. The contractor shall supply the agreed amount of fuses/bulbs/other operator replaceable items with each CDIA upon delivery.

Mating Connectors and Backshells - As per specification C.2.3.11, contractor shall submit all mating connectors minus RF connectors and corresponding backshells. Connectors and backshells shall be commercially available from a minimum of at least two commercial vendors. Contractors shall supply mating connectors and backshells with each CDIA upon delivery.

0003, 0023, 0043 & 0063 DWTS Radio Subsystem -Remote Control Unit (RCU) per specification C.2. If not available then mark N/A. Radio Remote shall include the following:

(1) Remote Control Unit per specification C.2;

(2) Sufficient operator replaceable items such as spare fuses and lamps for one year operation(as required) - contractor shall submit a list of expected fuse/bulb/other operator replaceable items sufficient to operate RCU for one year which government will approve prior to contract award. The repair parts list is for minor fuse/bulb operator replaceable type parts only. The contractor shall supply the agreed amount of fuses/bulbs/other operator replaceable items with each RCU upon delivery.

(3) Mating Connectors and Backshells - As per specification C.2.3.11, contractor shall submit all mating connectors minus RF connectors and corresponding backshells. Connectors and backshells shall be commercially available from a minimum of at least two commercial vendors. Contractors shall supply mating connectors and backshells with each RCU upon delivery.

0004, 0024, 0044 & 0064 DWTS Radio Subsystem - Commercial Technical Documentation including Manuals (Operator, Maintenance, Hierarchical Parts List, and Drawings). The following documentation can be combined or separated per the vendor's commercial practice. In each case, the vendors shall comply with the descriptions below. The documentation

shall comply with best commercial practices.

0004AA DWTS Radio Subsystem -Operator Manuals (Covers CLINs 0001, 0002, 0003) The
0024AA Operator Manuals shall contain operating instructions for CLINs 0001, 0002, and 0003.
0044AA One manual shall accompany that piece of equipment which it covers, i.e., the radio,
0064AA CDIA, or RCU.

0004AB DWTS Radio Subsystem -Maintenance Manuals (Covers CLINs 0001, 0002, 0003) The
0024AB Maintenance Manuals shall contain maintenance instructions for CLINs 0001, 0002, and
0044AB 0003. One manual shall accompany that piece of equipment which it covers, i.e., the
0064AB radio, CDIA, or RCU.

0004AC DWTS Radio Subsystem -Hierarchical Parts List (Covers CLINs 0001, 0002, 0003). The
0024AC Hierarchical Parts List shall contain parts lists for CLINs 0001, 0002, and 0003. Five
0044AC copies of the list shall be submitted to the government within 60 DAIDO for review.
0064AC The government will make required changes and return the list. 30 days after receiving the required changes, a final list shall be submitted. This list shall consist of a topdown breakdown of the system to the lowest replaceable unit and include, at a minimum, the following: Part Number, Nomenclature, CAGE code and manufacturer, circuit symbol number/reference designator, unit of issue, price per unit of issue, order delay time, replacement factor or mean time between failure, and quantity. One copy of the final list shall accompany each piece of equipment it covers, i.e., the radio, CDIA, or RCU.

0004AD DWTS Radio Subsystem -Drawings (Covers CLINs 0001, 0002, 0003). The Drawings
0024AD shall contain drawings for CLINs 0001, 0002, and 0003. Drawings shall be included in
0044AD other technical documentation where applicable. One set of drawings shall accompany
0064AD that piece of equipment it covers, i.e., the radio, CDIA, or RCU

0004AE DWTS Radio Subsystem -Test Plan for CLIN 0001, 0002, 0003 per specification C.2.5.2. The test plan shall be approved prior to acceptance by the government. One test plan shall be delivered which tests all required functions. The test plan shall also test desired functions as agreed to during the negotiations. The test plan shall be comprehensive and shall be utilized to test the first two items off of the production line in the case of CLINs 0001 and 0002. In addition, the first item off of the production line shall be tested per this test plan for CLIN 0003.

0004AF DWTS Radio Subsystem -Acceptance Plan for CLIN 0001, 0002, 0003 per specification C.2.5.2. The Acceptance plan shall be approved prior to acceptance by the government. All items not covered under Test Plan CLIN 0004AE shall be tested per this Acceptance plan. The Acceptance shall test each item to determine satisfactory PASS/FAIL criteria for each production unit. The test plan shall be comprehensive and shall utilize best commercial practices. The Acceptance plan shall be utilized as minimum standard for government acceptance of production unit and shall be updated as necessary to accommodate any changes, improvements, or quality requirements.

0004AG DWTS Radio Subsystem - Test Report for CLIN 0001, 0002, 0003 per specification C.2.5.4. The Radio test report shall be based on evaluation criteria set forth in CLIN 0004AE. The Test Report shall indicate, as a minimum: tests performed, test results, errors (if any), fixes (if any), and suggestions for improvements in both the test plan and the radio. This test report shall cover the first two production units for CLINs 0001, 0002

and the first production unit for CLIN 0003.

0004AH 0024AE 0044AE 0064AE DWTS Radio Subsystem -Acceptance Report for CLIN 0001, 0002, 0003 per specification C.2.5.4. The Radio Acceptance report shall be based on evaluation criteria set forth in CLIN 0004AF. The Acceptance report shall indicate, as a minimum: tests performed, test results, errors (if any), fixes (if any), and suggestions for improvements in both the Acceptance plan and the radio. This test shall cover each production unit for CLINs 0001, 0002, 0003.

0004AJ DWTS Radio Subsystem Frequency Allocation Data. Provide technical data pertaining to the radio for completing Exhibit A.

0005, 0025, 0045 & 0065 DWTS Radio Subsystem - Repair Parts for CLINs 0001, 0002, and 0003 per specification C.2.2.34. The contractor shall provide a recommended list of repair parts for these CLINs. The government will make changes as necessary to the list and the contractor shall provide repair parts per the list. This list shall include, at a minimum, the following: part number, nomenclature, manufacturer, circuit symbol number/reference designator, price per unit of issue, order delay time, mean time between failure, and quantity. The contractor shall provide, at the request of the government, any repair parts as listed on the Repair Parts List. Upon request of a repair part, the contractor shall submit within 5 days an estimated time of delivery for the repair part. If not available or applicable, mark N/A.

0005AA 0025AA 0045AA 0065AA DWTS Radio Subsystem -Repair Parts for Radio CLIN 0001 per specification C.2.2.34. The contractor shall provide a hierarchical list of repair parts for CLIN 0001 as described in CLIN 0005.

0005AB 0025AB 0045AB 0065AB DWTS Radio Subsystem -Repair Parts for Conditioned Diphase Interface Adapter CLIN 0002 per specification C.2.3.22. The contractor shall provide a hierarchical list of repair parts for CLIN 0002 as described in CLIN 0005.

0005AC 0025AC 0045AC 0065AC DWTS Radio Subsystem -Repair Parts for Remote Control Unit CLIN 0003 per specification C.2.3.7. The contractor shall provide a hierarchical list of repair parts for CLIN 0003 as described in CLIN 0005.

0006, 0026, 0046 DWTS Radio Subsystem - Operation and Maintenance Training Curricula - the contractor shall provide operator and maintenance training for CLINs 0001, 0002, and 0003 as requested by the government. One lot shall be based on a one week course with up to 10 trainees. The training shall be available either at the contractor's facility or at a site to be determined in Tidewater Area, Virginia. The training shall include a full set of tech manuals as well as a course guide for the instruction to be supplied to each student. If not available mark N/A.

0007, 0027 0047 & 0066 DWTS Radio Subsystem -Computer Based Training - the contractor shall provide Computer Based Training (CBT) as requested. CBT shall be capable of being shown on an IBM compatible based 486DX2 or higher. The CBT shall be contained on standard CD-ROM disks.

0008, 0028, 0048 & 0067 DWTS Radio Subsystem - Warranty - Offerors should propose warranty coverage in detail which will be evaluated by the Government.

0008AA 0028AA 0048AA 0067AA Warranty - Radio. Offerors should propose warranty coverage in detail which will be evaluated by the Govenment. Warranty shall cover items as specified in this contract.

0008AB 0028AB 0048AB 0067AB Warranty - Conditioned Diphase Interface Adapter . Offerors should propose warranty coverage in detail which will be evaluated by the Government. The warranty shall cover items as specified in this contract

0008AC 0028AC 0048AC 0067AC Warranty - Remote Control Unit - Offerors should propose warranty coverage in detail which will be evaluated by the Government. The warranty shall cover items as specified in this contract

0009, 0029, 0049 & 0068 DWTS Radio Technical Documentation Unlimited Reproduction Rights. The contractor shall authorize full reproduction rights to any technical documentation including, but not limited to, technical manuals, computer based training, test plans, test reports, software, firmware.

0010, 0030, 0050 & 0069 DWTS Radio Test Equipment. If not required then mark N/A. Contractor shall deliver a list of test equipment with price and delivery schedule as required for Operation/Maintenance. The government will review the list and make changes as necessary. Items on the finalized list will be ordered as necessary. If items are ordered, the contractor shall respond within five days after receipt of order with schedule for delivery.

0011, 0031, 0051 & 0070 The DWTS antenna shall consist of the following:

(1) DWTS Antenna per specification C.3.

(2) Mounting hardware(if vendor specific) per specification C.3.3.5. Contractor shall submit all information regarding vendor specific mounting to government for review prior to issuing initial delivery order. All drawings and specifications shall be made available to the government for government use.

0012 DWTS Antenna Commercial Technical Documentation

0012AA DWTS Antenna Test Plan per specification C.3.5.2. Test Plan for CLIN 0011 per specification C.3.5.2. The test plan shall be approved prior to acceptance by the government. One test plan shall be delivered which tests all required functions. The test plan shall also test desired functions as agreed to during the negotiations. The test plan shall be comprehensive and shall be utilized to test the first two items off of the production line.

0012AB DWTS Antenna Acceptance Plan per specification C.3.5.2. Acceptance Plan for CLIN 0011 per specification C.3.5.2. The Acceptance plan shall be approved prior to acceptance by the government. All items not covered under Test Plan CLIN 0012AA shall be tested per this Acceptance plan. The Acceptance pLANhall test each item to determine satisfactory PASS/FAIL criteria for each production unit. The acceptance plan shall be comprehensive and shall utilize best commercial practices. The Acceptance plan shall be utilized as minimum standard for government acceptance of production unit and shall be updated as necessary to accommodate any changes, improvements, or quality requirements.

0012AC DWTS Antenna Test Report for CLIN 0012AA per specification C.3.5.4. The Antenna test report shall be based on evaluation criteria set forth in CLIN 0012AA. The Test Report shall indicate, as a minimum: tests performed, test results, errors (if any), fixes (if any), and suggestions for improvements in both the test plan and the antenna. This test report shall cover the first two production units for CLIN 0011.

0012AD 0032, 0052 & 0071 DWTS Antenna Acceptance Report for CLIN 0012AB per specification C.3.5.4. The Antenna Acceptance report shall be based on evaluation criteria set forth in CLIN 0012AB. The Acceptance report shall indicate, as a minimum: tests performed, test results, errors (if any), fixes (if any), and suggestions for improvements in both the Acceptance plan and the antenna. This test shall cover each production unit and the results delivered with each antenna.

0012AE DWTS Antenna Installation instructions shall contain all instructions/drawings necessary to complete a proper installation of the antenna utilizing best commercial practices.

0012AF DWTS Antenna Frequency Allocation Data. Provide technical data pertaining to the antenna for completing Exhibit A.

0013, 0033, 0053 & 0072 DWTS Antenna Warranty - Offerors should propose warranty coverage in detail which will be evaluated by the Government.

0014, 0034, 0054 & 0073 DWTS Antenna Technical Documentation Unlimited Reproduction Rights. The contractor shall authorize full reproduction rights to any technical documentation including, but not limited to, technical manuals, computer based training, test plans, test reports, software, and firmware.

0015, 0035, The DWTS RF power amplifier shall consist of the following:
(1) DWTS RF power amplifier per specification C.4;

0055 & 0074 (2) Sufficient spare fuses and lamps for one year of operation. The contractor shall submit a list of fuses and lamps/other operator replacement items which the government will approve prior to contract award.
(3) Mating connectors and backshells. Connectors with the exception of RF connectors per specification C.4.

0016, 0036, 0056 & 0075 DWTS RF power amplifier commercial technical documentation including operator manual, maintenance manual, parts list, drawings, test plans, test reports, and installation instructions. Technical documentation may be combined or separated into as many documents as the contractor deems necessary.

0016AA 0036AA 0056AA 0075AA DWTS RF power amplifier operator manuals. The Operator Manuals shall contain operating instructions for the RF power amplifier. One manual shall accompany each RF power amplifier.

0016AB 0036AB 0056AB 0075AB DWTS RF power amplifier maintenance manuals. This shall include maintenance instructions, drawings, and installation instructions. One manual shall accompany each RF power amplifier.

0016AC 0036AC 0056AC 0075AC DWTS RF power amplifier hierarchical parts list. The Hierarchical Parts List shall contain parts for CLIN 0015. Five copies of the list shall be submitted to the government within 60 DAIDO for review. The government will make required changes and return the list. 30 days after receiving the required changes, a final list shall be submitted. This list shall consist of a topdown breakdown of the system to the lowest replaceable unit and include, at a minimum, the following: Part Number, Nomenclature, CAGE code and manufacturer, circuit symbol number/reference designator, unit of issue, price per unit of issue, order delay time, replacement factor or mean time between failure, and quantity. One list shall accompany each RF power amplifier.

0016AD 0036AD 0056AD 0075AD DWTS RF power amplifier drawings. The Drawings shall include at least schematic and assembly drawings for CLIN 0015. Drawings shall be included in other technical documentation where applicable. One set of drawings shall accompany each RF power amplifier.

0016AE DWTS RF power amplifier test plan for CLIN 0015. The test plan shall test all required functions per specification C.4.5.2. It shall also test those desired functions agreed to during contract negotiations. It shall be approved prior to acceptance by the government.

0016AF DWTS RF power amplifier acceptance plan for CLIN 0015. The acceptance plan shall test each item produced to ensure satisfactory operation in accordance with specification C.4.5.2. The acceptance plan shall be updated as necessary to accommodate changes, improvements, or quality requirements.

0016AG DWTS RF power amplifier test report for CLIN 0015. The test report shall report on the first two RF power amplifiers only. It shall indicate, as a minimum, tests performed, test results, errors, changes to the test plan, and suggestions for improvement to the test plan or the RF power amplifier.

0016AH
0036AE
0056AE
0075AE

DWTS RF power amplifier acceptance report for CLIN 0015. It shall indicate, as a minimum, tests performed, test results, errors, changes to the test plan, and suggestions for improvement to the test plan or the RF power amplifier.

0016AJ

DWTS RF power amplifier Frequency Allocation Data. Provide technical data pertaining to the RF power amplifier for completing Exhibit A.

0017, 0037, 0057 & 0076

DWTS RF Power Amplifier Repair Parts for CLIN 0015 per specification C.4. The contractor shall provide a recommended list of repair parts for these CLINs. The government will make changes as necessary to the list and the contractor shall provide repair parts per the list. This list shall include, at a minimum, the following: part number, nomenclature, manufacturer, circuit symbol number/reference designator, price per unit of issue, order delay time, mean time between failure, and quantity. The contractor shall provide, at the request of the government, any repair parts as listed on the Repair Parts List. Upon request of a repair part, the contractor shall submit within 5 days an estimated time of delivery for the repair part. If not available or applicable, mark N/A.

0018, 0038, 0058 & 0077

Warranty - RF power amplifier. Offerors should propose warranty coverage in detail which will be evaluated by the Govenment.

0019, 0039, 0059 & 0078

RF power amplifier technical documentation unlimited reproduction rights. The contractor shall authorize full reproduction rights to any technical documentation including, but not limited to, technical manuals, computer based training, test plans, test reports, software, firmware.

0020, 0040 & 0060

Operations and maintenance training. The contractor shall provide operations and maintenance training for CLIN 0015 as requested by the government. One lot shall be based on a one week course with up to 10 trainees. The training shall be available either at the contractor's facility or at a site to be determined in Tidewater Area, Virginia. The training shall include a full set of tech manuals as well as a course guide for the instruction to be supplied to each student. If not available mark N/A.

C.2 DIGITAL WIDEBAND TRANSMISSION SYSTEM (DWTS) RADIO SPECIFICATION

C.2.1. DESCRIPTION. The DWTS consists of a radio and RF distribution function for two separate channels. DWTS is a medium-range, NATO Band 3, Ultra-High Frequency (UHF), 1350-1850 MHz, line of sight (LOS), full duplex, multi-channel, multi-rate radio communications system. The DWTS will be capable of a minimum of 4001 channels of 125 kHz each and an objective transmit/receive spacing requirement of 50 MHz or less.

The DWTS will provide tactical ship to ship and ship to shore FM digital communications consisting of voice, video and data at a minimum distance of 30 NM. The DWTS will contain two independent Line of Sight Radio Subsystems (LRS) capable of operating in the following modes: single link; dual link; repeater; drop and insert repeater. In addition, two distinct orderwire capabilities with call features will be incorporated providing for initial coordination between user sites and for emergency operations.

The DWTS will be compatible with Triservice Tactical(TRI-TAC) and Mobile Subscriber Equipment(MSE), providing data rates ranging from 144kb/s to 2048 kb/s, as a minimum. The DWTS will supply its own clock and timing and be capable of referencing clock and timing from external source or recover clock. The DWTS will provide an RS-422-A Balanced NRZ interface as a minimum, with a Conditioned Diphase Interface as a desired feature; these interfaces will access Digital Transmission Groups (Bulk Data Streams) on various government supplied switch/multiplexers including the AN/FCC-100(v)7 and Switch Multiplex Unit(SMU) to gain access to shipboard terminal equipment(e.g. plain old telephone system (POTS), Digital Secure Voice Telephones (DSVT), and other voice, video and data) and other RF mediums, including Over The Horizon (OTH) systems such as SHF and SATCOM.

The DWTS will be capable of bulk encryption via a government supplied TSEC/KG-194A(will be referred to as KG-194A hereinafter) or equivalent; the DWTS will be capable of being manually bypassable and will pass unencrypted bulk data in this mode. The DWTS will be capable of Orderwire encryption via a government supplied TSEC/KY-57 with TSEC/HYP-57(will be referred to as KY-57 hereinafter).

Additional desired interfaces for the DWTS : Network/computer control via commercial SNMP (Simple Network Message protocol); a MIL-STD- 1553B interface via Shipboard Automated Communication Control System (SACCS); a separate Remote Control Unit (RCU) to control all functions of the DWTS. BIT/BITE will be incorporated into the system and will continually monitor and report status to the user via the front panel, computer controller (SACCS), and the RCU. Signal strength and Bit Error Rate (BER) will be monitorable during normal online operations. Off-line loopback modes will be used to test other system performance parameters.

RF distribution for the DWTS will consist of a Transmit function which is a radio output to a TWT amplifier to a transmit antenna, and a Receive function which is an Antenna input to a YIG filter and Pre-Amplifier assembly to the radio. Since each DWTS will include a minimum of two radio channels, an RF interface assembly will handle YIG filter control and Transmit and Receive functions from two separate channels to allow for manual switching of Channel 1 radio to Channel 2 RF distribution and vice-versa. The capability to choose “RF paths” allows redundancy and assists in the mitigation of risk including blockage or single point failure of RF link. A block diagram of the major DWTS equipment components to be installed aboard ship is shown in Attachment A.

C.2.1.1 Definitions. Definitions of terms used in this document shall be as specified in the current edition of FED-STD-1037.

C.2.2. Required Radio Characteristics. The following are minimum required radio characteristics.

C.2.2.1 Interoperability. The radio shall be operable at all data rates and frequencies with the Army's AN/GRC-226(V) and the USMC's AN/MRC-142. The radio shall provide a Digital Voice Orderwire (DVOW) mode interoperable with the AN/GRC-226(V) and AN/MRC-142 using a transparent interface with the KY-57. The DVOW shall be interoperable with the transmitting and receiving call function of both the AN/GRC-226(V) and AN/MRC-142.

C.2.2.2 Interfaces.

a. Electrical interface. The interface for serial data shall be in accordance with EIA-RS-422.

b. RF interface shall be 50 ohms with an N-type connector.

c. Black station clock output. The black station clock output shall be available and selectable from the following sources:

(1) Radio receive signal.
(2) The terminal equipment.
(3) From an external source.

The interface for black station clock output shall be in accordance with EIA-RS-422.

Attachment B provides a notional DWTS radio interface diagram.

C.2.2.3 Data Rates. The radio shall be capable of modulating and demodulating full duplex, bulk digital data streams at all of the following rates: 144, 256, 288, 512, 576, 1024, 1544, and 2048 kb/s.

C.2.2.4 Baseband/Radio Frequency (RF) Conversion. The radio shall be capable of modulating the bulk data traffic at all rates and formats received from the terminal equipment to user selected RF frequencies between 1350 and 1850 MHz.

C.2.2.5 RF/Baseband Conversion. The radio shall be capable of demodulating user selected, received RF, at frequencies between 1350 and 1850 MHz to bulk data traffic at all required data rates and formats.

C.2.2.6 Timing. The radio set shall be capable of accepting an external clock that will synchronize and control the clock rates of digital signals at the external interfaces. The radio set shall be capable of operating without external clock when this clock is not provided. The clock signal shall conform to MIL-STD-188-115. The radio timing shall be selectable:

a. From timing obtained from an internal clock. The accuracy of this clock shall be at least 1.6×10^{-6}.

b. From timing received from the radio RF received signal.

c. From timing received from the digital terminal equipment.

d. From an external source.

C.2.2.7 Bulk data encryption. The radio shall allow for the processing of non-encrypted bulk data or bulk data encrypted with the government's KG-194A or equivalent.

C.2.2.8 Secure Digital Voice Orderwire (DVOW). The radio shall provide capabilities for secure digital audio communications between system operators via a Government KY-57 encryption device. The orderwire shall be interoperable using a transparent interface with the AN/MRC-142 and AN/GRC-226(V) DVOW triservice tactical (TRI-TAC) equipment.

C.2.2.9 Data Transfer. The radio shall provide a full duplex, RF data link between user activities. The radio shall also provide the capabilities for selectable data rates, data formats, and frequencies. Bit error rate (BER) and signal strength shall be monitorable using on line test features with no interruption of data traffic. Data transfer includes all rates and formats to be compatible with the AN/MRC-142 and AN/GRC-226(V).

C.2.2.10 Operating mode. The radio operating mode shall be selectable between at least AN/GRC-226(V) mode and the AN/MRC-142 mode.

C.2.2.11 Frequency. The radio shall be capable of supporting transmission and reception within the 1350-1850 MHz (UHF Band 3) frequency band.

C.2.2.12 Frequency tunability. Transmission and reception frequencies shall be capable of tuning in increments of 125 kHz. Each transmitter shall be tunable over the frequency range independently of any other transmitter. Each receiver shall be tunable over the frequency range independently of any other receiver.

C.2.2.13 Frequency separation. The radio shall be capable of operation with transmit-receive spacing of no greater than 63 MHz. The system shall provide sufficient separation between transmit and receive frequencies to satisfy all frequency requirements including isolation.

C.2.2.14 Frequency stability. The radio shall have a frequency stability of +/- 30 parts per million in all operating conditions and modes.

C.2.2.15 Power out. The high power output of the radio shall be between 3 and 5 Watts.

C.2.2.16 Output power protection. Radio voltage standing wave ratio (VSWR) and output power protection shall include protection against shorts and opens over an indefinite period of time..

C.2.2.17 Receiver Noise Figure. The receiver noise figure shall be less than or equal to 2 dB.

C.2.2.18 Co-channel Interference.

a. With a desired signal level of -80 dBm, operating at a bit rate of 1024 kb/s with a random bit pattern, and at the desired channel frequency, an interfering signal eight dB lower than the desired signal, shall not cause greater than a 10^{-3} BER.

b. The receiver BER performance at a given input signal level shall not be degraded by more than 1 dB when an interfering signal at the receiving frequency is applied to the receiver input at a level 30 dB below the level of the desired signal.

C.2.2.19 Adjacent Channel Interference. With a desired signal level of -80 dBm, operating at a bit rate of 1024 kb/s with a random bit pattern, and ten or more channels distant from the desired channel,

an interfering signal shall be eighteen dB greater than the desired signal and not cause greater than a 10^{-3} BER.

C.2.2.20 **Jitter and wander**. The jitter transfer characteristic of the radio at 1544 kb/s shall be up to the limits defined by the mask of Attachment C. At 1544 kb/s the radio shall be capable of accepting jitter and wander up to the limits defined by the mask of Attachment D.

C.2.2.21 **Intermodulation products**. The companion transmitter intermodulation products shall not degrade receiver threshold performance by more than 1 dB or impose restrictions on receiver frequency assignments in frequency diversity systems. Receiver threshold is defined as the signal input level below which the receiver output BER is worse than 10^{-3} at the highest data rate.

C.2.2.22 **Receiver Sensitivity**. Receiver sensitivity shall be sufficient to support data links at all specified data rates and ranges with a BER less than 1×10^{-6} at a receive level of less than -95 dBm. Receiver sensitivity to support EEOW communications shall be a 12 dB SINAD (audio signal + noise + distortion, divided by noise + distortion) level at less than -115 dBm.

C.2.2.23 **Visual Indicators**. As a minimum, the radio shall be provided with front panel indicators capable of providing textual representations of, or illuminated indicators for, the following items:

a. Transmission and Reception frequencies
b. Data rates
c. Online signal Bit Error Rate
d. RF reception level in dB
e. BIT/BITE status
f. Alarm status
g. RF Data input/output signal status
h. Forward reflected power status at RT
i. Preset channel indication
j. Definition of transmission/reception channel presets
k. Current radio mode

C.2.2.24 **Audio Indicators**. As a minimum the radio shall be provided with the following audio warnings.

a. Bit error rate alarms at 10^{-5} or worse.
b. Entry of unauthorized/incorrect key entries
c. All orderwire call functions

C.2.2.25 **Controls**. The radio shall provide the following controls at a minimum:

a. Transmission frequencies
b. Reception frequencies
c. Transmission/reception data rates
d. Transmission/reception data formats
e. Voice orderwire operational mode
f. Preset channel selection and modification
g. Built in test/built in test equipment (BIT/BITE)
h. Front panel illumination levels (keypad or alternate)
i. On/off switch
j. Alarm mute
k. Selecting/configuring operational and loopback modes

Unless otherwise specified, all inputs shall be made via a keypad/keyboard assembly.

C.2.2.26 **Configuration Recovery**. Current configuration includes all user selectable conditions necessary to operate the radio in one of its operational, online modes. An example of a configuration includes but is not limited to the following user selected conditions: data rate, data format, transmit frequency, receive frequency, operating mode, power output, screen intensity, etc. The radio shall be capable of storing a minimum of ten operating configurations in nonvolatile memory. Once a specific configuration is recalled it shall become the current configuration. Current configuration, prior to power removal via failure or user generated removal, shall be available immediately following a power on condition; after appropriate self-tests, the radio shall operate in an online condition with no user intervention in the same as before power off configuration.

C.2.2.27 **Electrical Power**. The radio shall operate on nominal 115 volt, 60 Hz , 2-wire ungrounded alternating current (AC) power and on AC frequencies from 57 Hz to 63 Hz. The radio shall operate on AC voltage from 107 to 123 Vrms (root mean square voltage). The radio shall operate through voltage transients of +/- 16 percent applied over an interval of up to two seconds. The radio shall withstand voltage spikes as high as +/- 1000 Volts.

C.2.2.28 **Leakage current**. Leakage current shall be less than 5 ma.

C.2.2.29 **Mounting**. Shall be rack mountable on a 19 inch rack.

C.2.2.30 **Cooling**. Radio shall use shipboard ambient air for cooling.

C.2.2.31 **Loopback test modes**. The radio shall incorporate the loopback test modes described below and shall be fully compatible with the loopback functions available for the Army AN/GRC-226(V) and AN/MRC-142 systems.

a. Cable side loopback. During this test all data received into the radio on the baseband connector from external equipment shall be looped back out to the external baseband equipment. This test shall loop back the baseband data in the radio at the closest point to the external baseband data traffic connector. Also during this test the radio shall loopback the distant end's signal as to keep the link established. EEOW and DVOW shall be included in this test.

b. Internal RF loopback. This test shall perform an internal RF loop. In this test mode the operator shall be able to test any baseband traffic equipment, associated cabling and internal radio equipment. This test shall loop back all baseband and DVOW data. This loopback shall be accomplished internally to the radio at a point to include the RF modulation circuitry and the Receiver front end.

c. External RF loopback. This test shall perform an external RF loop. In this test mode the operator shall be able to provide an external RF loopback to the distant end. This loopback shall be accomplished internally to the radio at a point to include the RF modulation circuitry, amplification and receiver front end.

C.2.2.32 **TEMPEST**. Control of compromising emanations shall be in accordance with National Security Telecommunications and Information System Security Administrative Memorandum (NSTISSAM) TEMPEST/2-95 and National Communications Security Emanation Memorandum (NACSEM) 5112.

C.2.2.33 **Nameplate**. Nameplate data shall consist of, at a minimum, equipment nomenclature, serial number, model number, and manufacturer.

C.2.2.34 **Repair Parts**. Repair parts shall be of the same quality and design or better as those parts used in the design of the radio. Offerors shall provide spare parts list to be evaluated by the Government.

C.2.2.35 **Handset**. Any handset used with the radio shall be supplied by the vendor with each radio.

C.2.2.36 NTIA Regulations. The radio shall meet the requirements of the National Telecommunications and Information Administration "Manual of Regulations and Procedures for Federal Radio Frequency Management."

C.2.3. Desired radio characteristics. The following are radio characteristics that are not mandatory but are desired, if available. Additional characteristics not specified below which exceed required minimums are also desired.

C.2.3.1 Data Rates. Additional data rates are desired to include 192, 1152, 2304 kb/s, and even-numbered multiples of the digroup rate 1.544 Mb/s, level 1, 1 digroup) plus the overhead bit rate (level 2, 2 to 8 digroups) (MIL-STD-188-145), and data rates above 2304 kb/s.

C.2.3.2 Data format. Design objective of supporting Conditioned Diphase Interface formatted data in addition to NRZ data either selectable or through an additional connector. Conditioned diphase is defined in MIL-STD-188-200.

C.2.3.3 IF in/out. IF in/out of 70MHz for external modem. The intermediate frequency (IF) transmit and receive interface for an external modem should have the following characteristics:

a. Nominal IF center frequency of 70 MHz.
b. Impedance of 50 ohms.
c. Transmit level (keyed) of 0dBm +/-.

C.2.3.4 Frequency separation. Transmit-receive frequency spacing should not be greater than 50 MHz as a design objective.

C.2.3.5 Frequency stability. Frequency stability greater than +/- 10 ppm in all operating conditions and modes.

C.2.3.6 Spurious and image rejection. Spurious and image rejection of 80 dB or greater.

C.2.3.7 Remote control unit. A radio remote control unit that duplicates all the controls and indicators on the front panel of the radio and controls either radio independently or both simultaneously at a distance of approximately 200 feet.

C.2.3.8 Secondary electrical power. A secondary external +28 Volt Direct Current (VDC) power source capable of powering the radio receiver/transmitter and modulation/demodulation subsystem and automatic switching to the secondary external +28 VDC power source in the event of an AC power failure.

C.2.3.9 Power consumption. A design objective of less than 200 Watts of power consumption.

C.2.3.10 Package size. Small package size and light weight.

C.2.3.11 Connectors. Rugged, non-proprietary connectors located on the rear panel of the equipment meeting the following requirements:

a. Keyed
b. Captive locking mechanisms
c. Not be of plastic construction
d. Electromagnetic interference (EMI) protected
e. Capable of operating in a shipboard environment
f. Strain relieved
g. Power connectors must have female pins on “hot” line side
h. Clearly labeled
i. Have a minimum of two sources of procurement and not proprietary.

C.2.3.12 Color. Equipment gray.

C.2.3.13 Availability. Design objective for mean time between failures (MTBF) of 5000 Hrs or more and mean time to repair (MTTR) of 15 minutes or less.

C.2.3.14 Human factors. Ease of use and ease of maintenance.

C.2.3.15 Built In Test (BIT)/Built In Test Equipment (BITE). BIT/BITE features capable of continually monitoring, detecting, and reporting 98% of all failures which can occur during system operations. BIT should be able to fault isolate

a. 90% of all faults to a single lowest replaceable unit (LRU)
b. 95% of all faults to two LRUs
c. 99% of all faults to three LRUs

C.2.3.16 Shipboard sheltered environment. Suitable for rack mounting on a warship at sea considering ambient temperature.

C.2.3.17 Shock and vibration. Suitable for rack mounting on a warship at sea considering shock and vibration.

C.2.3.18 Environmental noise. Low.

C.2.3.19 Hazardous materials. No hazardous materials but, if unavoidable, the inclusion of material safety data sheets must be provided with proposal and prior to issuance of any subsequent delivery orders.

C.2.3.20 Shipboard Automatic Communications Control System (SACCS) control interface. Interface with SACCS as defined in MIL-STD-1553B.

C.2.3.21 Single Audio System (SAS) Interface. Interface DVOW with shipboard SAS SA-2112, balanced 0 dBm, 600 ohm signal.

C.2.3.22 Conditioned diphase interface adapter. Interface to TRI-TAC switches at the following data rates: 144, 256, 288, 512, 576, 1024, 1544, and 2048 kb/s. For further information see the Joint Tactical Communications Office, Fort Monmouth, NJ interface control documents 002 and 003.

C.2.3.23 Special Purpose Electronics Test Equipment (SPETE). No SPETE used to repair, maintain, or align the radio.

C.23.24 Antijam. Antijam features such as frequency hopping and burn through.

C.2.3.25 Transmission Control Protocol/Internet Protocol (TCP/IP) interface. TCP/IP interface for emerging technologies such as automated digital network system (ADNS).

C.2.3.26 Level of technology. A level of technology that is consistent with general commercial practices that provides high reliability and maintainability while allowing ease of modification for future upgrades.

C.2.3.27 Upgrades. Upgrades on new deliveries are incorporated at no additional cost. Previously delivered radios are still compatible and interchangeable with new radios with upgrades. Upgrades are easily retrofitted into previously delivered radios.

C.2.3.28 Warranty. Warranty to cover delivered products.

C.2.3.29 Safety. Compliance with commercial or military safety standards for electronic equipment.

C.2.3.30 Emergency Engineering Orderwire (EEOW). The Emergency Engineering Orderwire shall be compatible with the AN/MRC-142 Emergency DVOW and AN/GRC-226 (V) Engineering Orderwire (EOW) modes. The EEOW shall allow for encryption via the KY-57 for the AN/MRC-142 and shall allow for non-encrypted EEOW for the AN/GRC-226 (V). The receiver shall have enhanced receiver sensitivity and dedicate all transmit power to this function.

C.2.4. Configuration management.

C.2.4.1 Configuration records. Maintain a configuration management program that records and tracks the specific configuration of each radio by serial number delivered on each order.

C.2.4.2 Product integrity. All delivered radios shall be form, fit, and function interchangeable with all others delivered under this contract.

C.2.5. Testing.

C.2.5.1 Allowable Test Procedures. The methods used to verify that the equipment meets the requirements of the specification include analysis, demonstration, examination, and test.

C.2.5.1.1 Analysis. Analysis involves data manipulation by mathematical computation, statistical analysis, or mathematical modeling. Some of this data may be obtained as follows:

a. Data from historical records of use
b. Data from previous tests
c. Data from compliance of other equipment or systems
d. Data collected specifically for analysis

C.2.5.1.2 **Demonstration**. This is an operational performance demonstration of all operational controls and indicators. The equipment is installed in the test facility in a manner that will simulate service usage making connections and attaching instrumentation as necessary. Plugs, covers, and inspection plates not used in operation, but used in servicing, remain in place. All required characteristics listed in the specification are through installed indicators or through best equipment connected to show compliance with each of the items in the specification. The demonstration is conducted at the manufacture's facility within 30 days before shipping the equipment. Observation by a Government representative will be at the discretion of the Government with the place and time of the test at the convenience of the manufacturer.

C.2.5.1.3 **Examination**. The equipment is examined to determine compliance with the requirements as specified below:

a. Physical characteristics
b. Configurations and Modes
c. Capability requirements
d. Design and construction
e. Nameplate and markings
f. Workmanship
g. Interchangeability
h. Safety
i. Human engineering

C.2.5.1.4 **Test**. Test refers to the measurement of a specification parameter to determine compliance with the specification requirement. Testing is conducted, in a stated environment, such that the test results are meaningful and repeatable. Testing involves the operation of the test item and the recording and evaluation of qualitative data. A comparison of the data shall be conducted to determine whether the data statistics conform to the pre-established quantitative prediction for the parameters (with their associated tolerances). All testing shall be done in accordance with government approved test plans and procedures.

C.2.5.2 **Test plans**. Two test plans are required:

a. Radio test plan. This test plan shall encompass the radio, conditioned diphase interface adapter (if applicable), and remote control unit (if applicable) and shall be subject to approval before acceptance by the government. It shall test all required characteristics as well as those desired characteristics agreed to during contract negotiations.

b. Radio acceptance test plan. This test plan shall encompass the radio, conditioned diphase interface adapter (if applicable), and remote control unit (if applicable) and shall be subject to approval before acceptance by the government. It shall test each item produced to ensure satisfactory operation with this specification. The radio acceptance test plan shall be updated as necessary to accommodate changes, improvements, or quality requirements.

C.2.5.3 **Test conduct**. Conduct the test at the manufacturer's facility in accordance with the test plan. Testing shall be coordinated with the government to provide an opportunity for the government to observe testing on the first two production items.

C.2.5.4 Test reports.

a. Test report. A report of the results of the testing of the first two production items shall be provided. The test report shall include as a minimum the tests performed, test results, errors, deviations from the test plan, and suggestions for improvement to the items.

b. Acceptance test report. A report of the results of the testing on each production radio shall be provided. The test report shall include as a minimum the tests performed, test results, and errors.

C.2.6. Packaging. Commercial standard.

C.3 DIGITAL WIDEBAND TRANSMISSION SYSTEM (DWTS) ANTENNA SPECIFICATION

C.3.1. Description. The DWTS consists of a radio and RF distribution function for two separate channels. DWTS is a medium-range, NATO Band 3, Ultra-High Frequency (UHF), 1350-1850 MHz, line of sight (LOS), full duplex, multi-channel, multi-rate radio communications system. The DWTS will be capable of a minimum of 4001 channels of 125 kHz each and an objective transmit/receive spacing requirement of 50 MHz or less.

The DWTS will provide tactical ship to ship and ship to shore FM digital communications consisting of voice, video and data at a minimum distance of 30 NM. The DWTS will contain two independent Line of Sight Radio Subsystems (LRS) capable of operating in the following modes: single link; dual link; repeater; drop and insert repeater. In addition, two distinct orderwire capabilities with call features will be incorporated providing for initial coordination between user sites and for emergency operations.

RF distribution for the DWTS will consist of a Transmit function: a radio output to a TWT amplifier to a transmit antenna, and a Receive function : Antenna input to a YIG filter and Pre-Amplifier assembly to the radio. Since each DWTS will include a minimum of two radio channels, an RF interface assembly will handle YIG filter control and Transmit and Receive functions from two separate channels to allow for manual switching of Channel 1 radio to Channel 2 RF distribution and vice-versa. The capability to choose "RF paths" allows redundancy and assists in the mitigation of risk including blockage or single point failure of RF link. A block diagram of the major DWTS equipment components to be installed aboard ship is shown in Exhibit A.

C.3.2. Required antenna characteristics. The following are minimum required antenna characteristics.

C.3.2.1 Frequency. The frequency range shall be 1350 MHz to 1850 MHz.

C.3.2.2 Antenna reciprocity. The antenna shall be capable of both transmission and reception.

C.3.2.3 Power handling. The antenna shall be capable of handling 200 Watts continuous wave over the required frequency range.

C.3.2.4 Vertical beamwidth. The antenna shall have a combination of antenna gain and vertical beamwidth such that the entire vertical beamwidth between +/-15 degrees from horizontal has at least 0 dB gain and no less than -3 dB gain at +/-30 degrees from the horizontal.

C.3.2.5 Horizontal beamwidth. The antenna horizontal beamwidth shall be 360 degrees with no greater than +/-1 dB of ripple.

C.3.2.6 Voltage Standing Wave Ratio (VSWR). The VSWR of the antenna shall be no greater than 2.0:1 over the required frequency range.

C.3.2.7 Connector. The antenna connector shall be an N type, female, made of a material equivalent to passivation treated stainless steel of a corrosion resistance quality meeting or exceeding the performance of QQ-P-35 and MIL-PRF-39012 materials when tested under the conditions of EIA RS-186-5F, salt spray (corrosion).

C.3.2.8 Radio frequency (RF) input impedance. The RF input impedance to the antenna shall be a nominal 50 ohms over the required frequency range of the antenna.

C.3.2.9 Weight. The weight of the antenna and housing (if any) shall not exceed 10 lbs.

C.3.2.10 Nameplate. Nameplate data shall consist of, at a minimum, equipment nomenclature, serial number, model number, and manufacturer.

C.3.2.11 NTIA Regulations. The antenna shall meet the requirements of the National Telecommunications and Information Administration "Manual of Regulations and Procedures for Federal Radio Frequency Management."

C.3.3. Desired antenna characteristics. The following are antenna characteristics that are not mandatory but are desired, if available. Additional characteristics not specified below which exceed required minimums are also desired.

C.3.3.1 Frequency. Expanded frequency range of 1 - 2 GHz.

C.3.3.2 Environment. Suitable for mast mounting on a warship at sea considering, as a minimum, salt spray, fog, rain, lightning, wind, ice, solar radiation, and ambient temperature.

C.3.3.3 Shock, vibration, and motion. Suitable for mast mounting on a warship at sea considering, as a minimum, shock, vibration, and motion (acceleration forces in excess of 2.5g).

C.3.3.4 Reliability. High reliability.

C.3.3.5 Size and mounting. Minimum size and easy mounting.

C.3.3.6 Color. Haze gray.

C.3.3.7 Polarization. Vertical or other polarization suitable for communicating with shore units which have antennas with vertical polarization.

C.3.3.8 Warranty. Warranty to cover delivered products.

C.3.3.9 Level of technology. A level of technology that is consistent with general commercial practices that provides high reliability and maintainability while allowing ease of modification for future upgrades.

C.3.3.10 Upgrades. Upgrades on new deliveries are incorporated at no additional cost. Previously delivered antennas are still compatible and interchangeable with new antennas with upgrades.

C.3.3.11 Safety. Compliance with commercial or military safety standards for electronic equipment.

C.3.3.12 Gain. Improved gain.

C.3.4. Configuration management.

C.3.4.1 Configuration records. Maintain a configuration management program that records and tracks the specific configuration of each antenna by serial number delivered on each order.

C.3.4.2 Product integrity. All delivered antennas shall be form, fit, and function interchangeable with all others delivered under this contract.

C.3.5. Testing.

C.3.5.1 Allowable Test Procedures. The methods used to verify that the equipment meets the requirements of the specification include analysis, demonstration, examination, and test.

C.3.5.1.1 Analysis. Analysis involves data manipulation by mathematical computation, statistical analysis, or mathematical modeling. Some of this data may be obtained as follows:

a. Data from historical records of use.
b. Data from previous tests.
c. Data from compliance of other equipment or system.
d. Data collected specifically for analysis.

C.3.5.1.2 Demonstration. This is an operational performance demonstration. The equipment is installed in the test facility in a manner that will simulate service usage making connections and attaching instrumentation as necessary. All the required characteristics listed in the specification are demonstrated. All characteristics are demonstrated through test equipment connected to show compliance with each of the items in the specification. The demonstration is conducted at the manufacturer's facility within 30 days before shipping the equipment. Observation by a Government representative will be at the discretion of the Government with the place and time of the test at the convenience of the manufacturer.

C.3.5.1.3 Examination. The equipment is examined to determine compliance with the requirements as specified below:

a. Physical characteristics
b. Configurations and Modes
c. Capability requirements
d. Design and construction
e. Nameplate and markings
f. Workmanship
g. Interchangeability
h. Safety
i. Human engineering

C.3.5.1.4 Test. Test refers to the measurement of a specification parameter to determine compliance with the specification requirement. Testing is conducted, in a stated environment, such that the test results are meaningful and repeatable. Testing involves the operation of the test item and the recording and evaluation of qualitative data. A comparison of the data shall be conducted to determine whether the data statistics conform to the pre-established quantitative prediction for the parameters (with their associated tolerances). All testing shall be done in accordance with government approved test plans and procedures.

C.3.5.2 Test plans. Two test plans are required:

a. Antenna test plan. This test plan shall be subject to approval before acceptance by the government. It shall test all required characteristics as well as those desired characteristics agreed to during contract negotiations.

b. Antenna acceptance test plan. This test plan shall be subject to approval before acceptance by the government. It shall test each item produced to ensure satisfactory operation with this specification. The antenna acceptance test plan shall be updated as necessary to accommodate changes, improvements, or quality requirements.

C.3.5.3 Test conduct. Conduct the test at the manufacturer's facility in accordance with the test plan. Testing shall be coordinated with the government to provide an opportunity for the government to observe testing on the first two production items.

C.3.5.4 Test reports.

a. Test report. A report of the results of the testing of the first two production items shall be provided. The test report shall include as a minimum the tests performed, test results, errors, changes to the test plan, and suggestions for improvement to the items.

b. Acceptance test report. A report of the results of the testing on each production antenna shall be provided. The test report shall include as a minimum the tests performed, test results, errors, changes to the test plan, and suggestions for improvement to the items.

C.3.6. Packaging. Commercial standard.

C.4 DIGITAL WIDEBAND TRANSMISSION SYSTEM (DWTS) RF POWER AMPLIFIER SPECIFICATION

C.4.1. Description. The DWTS consists of a radio and RF distribution function for two separate channels. DWTS is a medium-range, NATO Band 3, Ultra-High Frequency (UHF), 1350-1850 MHz, line of sight (LOS), full duplex, multi-channel, multi-rate radio communications system. The DWTS will be capable of a minimum of 4001 channels of 125 kHz each and an objective transmit/receive spacing requirement of 50 MHz or less.

The DWTS will provide tactical ship to ship and ship to shore FM digital communications consisting of voice, video and data at a minimum distance of 30 NM. The DWTS will contain two independent Line of Sight Radio Subsystems (LRS) capable of operating in the following modes: single link; dual link; repeater; drop and insert repeater. In addition, two distinct orderwire capabilities with call features will be incorporated providing for initial coordination between user sites and for emergency operations.

RF distribution for the DWTS will consist of a Transmit function: a radio output to a TWT amplifier to a transmit antenna, and a Receive function : Antenna input to a YIG filter and Pre-Amplifier assembly to the radio. Since each DWTS will include a minimum of two radio channels, an RF interface assembly will handle YIG filter control and Transmit and Receive functions from two separate channels to allow for manual switching of Channel 1 radio to Channel 2 RF distribution and vice-versa. The capability to choose “RF paths” allows redundancy and assists in the mitigation of risk including blockage or single point failure of RF link. A block diagram of the major DWTS equipment components to be installed aboard ship is shown in Exhibit A.

C.4.2. Required RF power amplifier characteristics. The following are minimum required RF power amplifier characteristics.

C.4.2.1 Frequency. The nominal frequency shall be from 1350 MHz to 1850 MHz with a -3 dB power bandwidth from 1300 to 1900 MHz..

C.4.2.2 Power output. The RF power amplifier shall produce a minimum unsaturated power output of 200 Watts continuous wave at any frequency within the nominal bandwidth using an input power from 3 to 5 Watts.

C.4.2.3 Gain flatness. The minimum saturated gain shall be 30 dB at the minimum power output. Gain flatness shall be +/-1.5 dB over the nominal frequency range.

C.4.2.4 Amplifier output control. The output shall be capable of being muted via an external control signal. The amplifier output level shall be controllable from the front panel and shall be adjustable down to a minimum setting of no greater than 5 Watts.

C.4.2.5 Noise figure. Noise figure shall be 35 dB maximum.

C.4.2.6 Harmonics. All harmonics shall be less than -12 dB referenced to the carrier (dBc) at rated RF power output.

C.4.2.7 Intermodulation. The intermodulation distortion shall be less than -24 dBc with two equal carriers at total output power 7 dB below the rated single carrier output level.

C.4.2.8 Electrical power. The RF power amplifier shall operate on nominal 115 volt, 60 Hz , 2-wire ungrounded alternating current (AC) power and on AC frequencies from 57 Hz to 63 Hz. The RF power amplifier shall operate on AC voltage from 107 to 123 Vrms (root mean square voltage). The RF power amplifier shall operate through voltage transients of +/- 16 percent that last up to two seconds. The radio shall withstand voltage spikes as high as +/- 1000 Volts.

C.4.2.9 Input voltage standing wave ration (VSWR). Input VSWR shall be no greater than 2.5:1 over the nominal frequency range.

C.4.2.10 VSWR protection. RF power amplifier shall not be damaged or permanently degraded by continuous operation into either an open or shorted load or any load impedance and associated VSWR.

C.4.2.11 External connectors. External connectors shall be at the rear of the equipment and have the following characteristics:

a. Keyed
b. Captive locking mechanisms
c. Not be of plastic construction
d. Electromagnetic interference (EMI) protected
e. Capable of operating in a shipboard environment
f. Strain relieved
g. Power connectors must have female pins on “hot” line side
h. Clearly labeled
i. Have a minimum of two sources of procurement and not proprietary.

C.4.2.12 RF connectors. RF connector shall be N-type.

C.4.2.13 Mounting. The RF power amplifier shall be mountable in a 19 inch rack.

C.4.2.14 Front panel controls. Front panel controls shall be, at a minimum:

a. On/Off with light indication
b. Forward/reflected power meter
c. Transmission power levels
d. Output power level control

C.4.2.15 Leakage current. Leakage current shall be less than 5 ma.

C.4.2.16 Nameplate. Nameplate data shall consist of, at a minimum, equipment nomenclature, serial number, model number, and manufacturer.

C.4.2.17 Impedance. Input and output impedance shall be a nominal 50 ohms.

C.4.2.18 NTIA Regulations. The RF power amplifier shall meet the requirements of the National Telecommunications and Information Administration “Manual of Regulations and Procedures for Federal Radio Frequency Management.”

C.4.2.19 Repair Parts. Repair parts shall be of the same quality and design or better as those parts used in the design of the RF Power Amplifier. Offerors shall provide spare parts list to be evaluated by the Government.

C.4.3. Desired RF power amplifier characteristics. The following are RF power amplifier characteristics that are not mandatory but are desired, if available. Additional characteristics not specified below which exceed required minimums are also desired.

C.4.3.1 Frequency. Expanded frequency range of 1 to 2 GHz.

C.4.3.2 Noise figure. Low.

C.4.3.3 Spurious signals. Non-harmonic spurious signals measured at the output of the RF power amplifier less than -80 dBc at carrier offsets greater than 100 Hz and less than -60 dBc at carrier offsets between 1 Hz and 100 Hz.

C.4.3.4 Harmonics. As measured at the RF output of the power amplifier all harmonics less than -60 dB referenced to the carrier (dBc)

C.4.3.5 Package size. Small package size and light weight.

C.4.3.6 Cooling. Uses shipboard ambient air with minimum maintenance.

C.4.3.7 Fault indicators. Visual and audible indicators that tell when problems occur or parameters have been exceeded.

C.4.3.8 Color. Equipment gray.

C.4.3.9 Availability. High mean time between failures (MTBF), low mean time to repair (MTTR).

C.4.3.10 Environmental noise. Low.

C.4.3.11 Shipboard sheltered environment. Suitable for rack mounting on a warship at sea considering ambient temperature.

C.4. 3.12 Shock and vibration. Suitable for rack mounting on a warship at sea considering shock and vibration.

C.4.3.13 Remote control. Capable.

C.4.3.14 Human factors. Ease of use.

C.4.3.15 Power consumption. Low power consumption.

C.4.3.16 Level of technology. A level of technology that is consistent with general commercial practices that provides high reliability and maintainability while allowing ease of modification for future upgrades.

C.4.3.17 Upgrades. Upgrades on new deliveries are incorporated at no additional cost. Previously delivered RF power amplifiers are still compatible and interchangeable with new RF power amplifiers with upgrades. Upgrades are easily retrofitted into previously delivered RF power amplifiers.

C.4.3.18 Warranty. Warranty to cover delivered products.

C.4.3.19 Safety. Compliance with commercial or military safety standards for electronic equipment.

C.4.4. Configuration management.

C.4.4.1 Configuration records. Maintain a configuration management program that records and tracks the specific configuration of each RF power amplifier by serial number delivered on each order.

C.4.4.2 Product integrity. All delivered RF power amplifiers shall be form, fit, and function interchangeable with all others delivered under this contract.

C.4.5. Testing.

C.4.5.1 Allowable Test Procedures. The methods used to verify that the equipment meets the requirements of the specification include analysis, demonstration, examination, and test.

C.4.5.1.1 Analysis. Analysis involves data manipulation by mathematical computation, statistical analysis, or mathematical modeling. Some of this data may be obtained as follows:

a. Data from historical records of use
b. Data from previous tests
c. Data from compliance of other equipment or systems
d. Data collected specifically for analysis

C.4.5.1.2 Demonstration. This is an operational performance demonstration of all operational controls and indicators. The equipment is installed in the test facility in a manner that will simulate service usage making connections and attaching instrumentation as necessary. Plugs, covers, and inspection plates not used in operation, but used in servicing, remain in place. All required characteristics listed in the specification are demonstrated. All controls are manipulated for response as stated in the specification and either demonstrated through installed indicators or through test equipment connected to show compliance with each of the items in the specification. The demonstration is conducted at the manufacture's facility within 30 days before shipping the equipment. Observation by a Government representative will be at the discretion of the Government with the place and time of the test at the convenience of the manufacturer.

C.4.5.1.3 Examination. The equipment is examined to determine compliance with the requirements as specified below:

a. Physical characteristics
b. Configurations and Modes
c. Capability requirements
d. Design and construction
e. Nameplate and markings
f. Workmanship
g. Interchangeability
h. Safety
i. Human engineering

C.4.5.1.4 Test. Test refers to the measurement of a specification parameter to determine compliance with the specification requirement. Testing is conducted, in a stated environment, such that the test

results are meaningful and repeatable. Testing involves the operation of the test item and the recording and evaluation of qualitative data. A comparison of the data shall be conducted to determine whether the data statistics conform to the pre-established quantitative prediction for the parameters (with their associated tolerances). All testing shall be done in accordance with government approved test plans and procedures.

C.4.5.2 Test plans. Two test plans are required:

a. RF power amplifier test plan. This test plan shall be subject to approval before acceptance by the government. It shall test all required characteristics as well as those desired characteristics agreed to during contract negotiations.

b. RF power amplifier acceptance test plan. This test plan shall be subject to approval before acceptance by the government. It shall test each item produced to ensure satisfactory operation with this specification. The RF power amplifier acceptance test plan shall be updated as necessary to accommodate changes, improvements, or quality requirements.

C.4.5.3 Test conduct. Conduct the test at the manufacturer's facility in accordance with the test plan. Testing shall be coordinated with the government to provide an opportunity for the government to observe testing on the first two production items.

C.4.5.4 Test reports.

a. Test report. A report of the results of the testing of the first two production items shall be provided. The test report shall include as a minimum the tests performed, test results, errors, changes to the test plan, and suggestions for improvement to the items.

b. Acceptance test report. A report of the results of the testing on each production item shall be provided. The test report shall include as a minimum the tests performed, test results, errors, changes to the test plan, and suggestions for improvement to the items.

C.4.6. Packaging. Commercial standard.

C.5.1 DURATION OF CONTRACT PERIOD-JUL1989

This contract shall become effective on the the date of award and shall continue in effect during the period ending **One Year Later**, unless terminated in accordance with other provisions herein.

C.5.2 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT-AUG 1989

(a) The Government may extend the term of this contract by written notice to the Contractor within 30 days prior to expiration of the contract; provided, that the Government shall give the Contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the Government to an extension.

C.5.3 MINIMUM AND MAXIMUM QUANTITES (JUL 1989)

As referred to in paragraph (b) of the Indefinite Quantities clause of this contract, the contract minimum quantity is the expenditure of $455,000.00 for the DWTS Radio Subsystems, $55,000.00 for the Antennas and $350,000.00 for the DWTS RF Power Amplifier.

C.5.4 FAR 52.216-18 ORDERING (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from Date of Award, or the exercise of any option period, through twelve months after the date of award or the exercise of the option.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

C.5.5 FAR 52.216-19 ORDER LIMITATIONS (OCT 1995)

(a) *Minimum Order*. When the Government requires supplies or services covered by this contract in an amount of less than $1,000.00, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under this contract.

(b) *Maximum Order*. The Contractor is not obligated to honor--

(1) Any order for a single item in excess of the quantities specified for individual Contract Line Items in the Schedule of Supplies/Services;
(2) Any order for a combination of items in excess of the quantities specified for individual Contract Line Items in the Schedule of Supplies/Services; or
(3) A series of orders from the same ordering office within Not Applicable (N/A) days that together call for quantities exceeding the limitation in subparagraph (1) and (2) of this section.

(c) If this is a requirements contract, (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor is that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within (5) days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

C.5.6 FAR 52.216-22 INDEFINITE QUANTITY (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(C) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(D) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and

Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after the completion of all delivery orders placed prior to the end of the Ordering period.

C.5.7 PROCEDURES FOR ISSUING ORDERS - COMMERCIAL ITEMS (ORDERS ISSUED BY DESIGNATED ORDERING OFFICER

(a) This is a Firm Fixed Price, Indefinite-Delivery Indefinite-Quantity Type Commercial Item Contract. All orders issued hereunder are subject to the terms and conditions of this contract. This contract shall control in the event of conflict with any order. When mailed, a delivery order shall be "issued" for purpose of this contract at the time the Government deposits the order in the mail, or, if transmitted by other means, when physically delivered to the contractor. Supplies or services to be furnished under this contract shall be furnished by the issuance of delivery orders on DD Form 1155.

Orders shall be placed by an authorized Naval Command, Control and Ocean Surveillance Center, In-Service Engineering, East Coast Division (NISE East) Warranted Ordering Officer. Delivery Orders shall contain the information in paragraph (b) below:

(b) Ordering Procedures. Delivery orders shall include, but not be limited to, the following information:
(1) Date of order;
(2) Contract, order number and requisition number;
(3) Appropriation and accounting data;
(4) Description of end item(s) to be delivered;
(5) DD Form 254 (Contract Security Classification Specification), if applicable;
(6) List of Commercial Contract Deliverables;
(7) Exact place of pickup and delivery;
(8) The inspecting and accepting codes (if applicable); and
(9) Delivery date.

ORAL ORDERS ARE NOT AUTHORIZED.

(c) Modification of Delivery Orders. Delivery orders may be modified by the Ordering Officer. Modifications to delivery orders shall include the information set forth in paragraph (b) above, as applicable.

(d) Unilateral Orders. Delivery orders under this contract will ordinarily be issued unilaterally. If bilateral orders are required and the parties fail to agree, the Ordering Officer may require the Contractor to perform and any disagreement shall be deemed a dispute within the meaning of the "Disputes" clause.

C.5.8 TECHNOLOGY IMPROVEMENTS

C.5.8.1 After contract award, the Government may solicit, and the Contractor is encouraged to propose independently, technology improvements to the equipment, software, specifications, or other requirements of this contract. These technology improvements can be used to take advantage of the rapidly advancing technology of the communications industry. The Government desires to avail itself of cost effective advances the Contractor can propose and demonstrate to the satisfaction of the Government, as being technically equal to or better than components proposed to meet the requirements of this contract. These changes may be proposed

to save money, improve performance, provide additional methods of communication, improved speeds and data rates, provide live video, improve reliability and reduced life cycle support cost.

C.5.8.2 When the Government solicits or the Contractor proposes a Technology Improvement, the Contractor shall submit a priced technical proposal to the Contracting Officer within 60 calendar days after the Government's written request, unless an alternative time is mutually agreed to by both parties. Those proposed technology improvements acceptable to the Government will be processed as modifications to the contract.

C.5.8.3 Only those changes identified by the Contractor in a proposal submitted pursuant to the provisions of this paragraph apply. As a minimum, the following information shall be submitted by the Contractor with each proposal:

a. A description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each.

b. Itemized requirements of the contract which must be changed if the porposal is adopted, and the proposed revision to the contract for each such change.

c. An estimate of the changes in performance and price, if any, that will result from adoption of the proposal.

d. An evaluation of the effects of the proposed change would have on collateral costs to the Government, such as installation costs, costs of related items, and costs of maintenance and operation. The Contractor shall propose exchange/sale values for all Government owned property impacted by the technology improvement proposal.

e. A statement of the time by which the modification adopting the proposal shall be issued so as to obtain the maximum benefits of the changes during the remainder of this contract. Also, any effect on the contract completion time or delivery schedule shall be identified.

f. Whether the changes are compliant with standards indentified in the contract.

g. The current Original Equipment Manufacturer's (OEM)/Original Software Manufacture (OSM) (OEM/OSM) Commercial Price List and, if applicable, the GSA Price List for the item proposed.

C.5.8.4 Technology improvement/refreshment proposals submitted to the Contracting Officer will be processed expeditiously. The Government will not be liable for proposal preparation costs or any delay in acting upon any proposal submitted pursuant to this clause. The Contractor has the right to withdraw, in whole or in part, any technology improvement proposal not accepted by the Government within the period specified in the technology improvement/refreshment proposal, except that any Technology Improvement/Refreshment Proposal acceptance period shall be for a minimum of 180 calendar days. The decision of the

Contracting Officer as to the acceptance of any such poroposal under this contract shall be final and shall not be subject to the "Disputes" clause of this contract.

C.5.8.5 All of the technology improvements proposed will be subject to all of the testing requirements delineated in the solicitation and/or contract. Testing shall be done at no additional charge to the Government.

C.5.8.6 The Contracting Officer may accept any improvement proposal submitted pursuant to this clause by giving the Contractor written notice. This written notice will be given by issuance of a modification to this contract. Unless and until a modification is executed to incorporate a technology improvement proposal under this contract the Contractor shall remain obligated to perform in accordance with the terms of the existing contract.

C.5.8.7 The Contractor must supply current commercial prices and current cost and pricing data, if requested, in accordance with FAR 15.804 in support of the unit prices when submitting a technology improvement proposal. When the cost of performance of this contract is increased or decreased as a result of the change, the equitable adjustment increasing or decreasing the contract price shall be in accordance with the "Changes" clause rather than under this clause, but the resulting contract modification shall state that it is made pursuant to this clause.

C.5.8.8 If a mutually agreeable decision within a reasonable amount of time cannot be reached between the Government and the Contractor as to the functionality of the item proposed and under which functional subcategory the item is to be categorized, the Contracting Officer shall, as his or her own discretion, make the determination. The Contracting Officer's determination shall be final.

C.5.8.9 The Contractor is requested to identify specifically any information contained in the technology improvement proposal which the Contractor considers confidential and/or proprietary and which the Contractor prefers not to be disclosed to the public. The identification of information as confidential and/or proprietary is for information only and shall not be binding on the Government to prevent disclosure of such information.

CONTRACT DOCUMENTS, EXHIBITS AND ATTACHMENTS

D.1 ATTACHMENTS

Attachment A	DWTS Shipboard Configuration	1	page
Attachment B	Digital Wideband Transmission System (DWTS) Radio Interface	1	page
Attachment C	1544kb/s Demultiplexer Jitter Transfer Characteristic	1	page
Attachment D	Tolerable Jitter and Wander Mask	1	page
Attachment E	Contractor Performance Data Sheet	4	pages

D.2 EXHIBITS

Exhibit A	Application for Equipment Frequency Allocation	6	pages

SECTION E

E.1 52.246-15 Certification of Conformance (April 1984)

*****

"I certify that on _____ (insert date), the _____ (insert contractor's name) furnished the supplies or services called for by Contract No. _____ via _____ (Carrier) on _____ (identify the bill of lading or shipping document) in accordance with all applicable requirements. I further certify that the supplies or services are of the quality specified and conform in all respects with the contract requirements, including specifications, drawings, preservation, packaging, packing, marking requirements, and physical item identification (part number), and are in the quantity shown on this or on the attached acceptance document."

*****

*****

Date of Execution
Signature
Title

*****

E.2 INSPECTION AND ACCEPTANCE

(a) Inspection and acceptance of the supplies or services to be furnished hereunder shall be made by representatives of the Government (normally the defense Contract Management Area Operations (DCMAO) at the contractor's or subcontractor's plant. The cognizant inspector shall be notified when material is ready for inspection. When the contract provides for Government procurement quality assurance actions at source, the place or places designated for such actions may not be changed without authorization of the Contracting Officer.

(b) When off-the-shelf items (items already produced) are presented by the contractor, the Government inspector is authorized to limit inspection to those procurement quality assurance (PDQ) actions which can be performed.

(c) GOVERNMENT REPRESENTATIVE: (to be designated at time of award)

_____

_____

_____

(d) PLACE OF INSPECTION: (to be designated at time of award)

_____

_____

_____

E.3 FAR 52.207-4 ECONOMIC PURCHASE QUANTITY -- SUPPLIES (AUG 1987)

(a) Offerors are invited to state an opinion on whether the quantity(ies) of supplies on which bids, proposals or quotes are requested in this solicitation is (are) economically advantageous to the Government.

_____
_____
_____
_____
_____

(b) Each offeror who believes that acquisitions in different quantities would be more advantageous is invited to recommend an economic purchase quantity. If different quantities are recommended, a total and a unit price must be quoted for applicable items. An economic purchase quantity is that quantity at which a significant price break occurs. If there are significant price breaks at different quantity points, this information is desired as well.

Offeror Recommendations Price Item Quantity Quotation Total

_____
_____
_____

(c) The information requested in this provision is being solicited to avoid acquisitions in disadvantageous quantities and to assist the Government in developing a data base for future acquisitions of these items. However, the Government reserves the right to amend or cancel the solicitation and resolicit with respect to any individual item in the event quotations received and the Government's requirements indicate that different quantities should be acquired.

SECTION F - DELIVERY SCHEDULE

CLINS	**DELIVERY DATE**
0001AA, 0002, 0003, 0004AA, 0004AB 0004AD, 0005AA, 0005AB, 0005AC, 0008AA, 0008AB, 0008AC, 0021, 0022, 0023, 0024AA, 0024AB, 0024AD, 0025AA, 0025AB, 0025AC, 0028AA, 0028AB, 0028AC, 0041, 0042, 0043, 0044AA, 0044AB, 0044AD, 0045AA, 0045AB, 0045AC, 0048AA, 0048AB, 0048AC, 0061, 0062, 0063, 0064AA, 0064AB, 0064AD, 0065AA, 0065AB, 0065AC, 0067AA, 0067AB & 0067AC	Normal delivery schedule/ to be delivered within 300 days after the date of the delivery order.
0004AC, 0016AC, 0024AC, 0044AC, 0064AC, 0036AC, 0056AC & 0075AC	First five parts list to be delivered within 60 days after the date of the delivery order. Final parts list delivered within 30 days of receiving government comments on the first parts list and one copy with each radio, CDIA, and RCU delivered.
0001AB, 0010, 0011, 0013, 0033, 0030 0031, 0050, 0051, 0053, 0069, 0070, 0072	To be delivered within 120 days after the date of the delivery order.
0004AE, 0004AJ,0007, 0012AA, 0012AF, 0012AE, 0016AE, 0016AJ, 0027, 0047,0066	To be delivered within 30 days after the date of the delivery order.
0004AF & 0016AF	To be delivered within 45 days after the date of the delivery order.
0004AG, 0012AC & 0016AG	Each reports is to be delivered within 30 days after completion of test.

0004AH, 0012AD, 0016AH, 0024AE, 0032, 0036AE, 0044AE, 0052, 0056AE, 0064AE 0071 & 0075AE	To be delivered with each unit.
0006, 0020, 0026, 0040, 0046, 0060 & 0066	Mutual agreement will be reached between the contractor and the Government prior to issuance of the delivery order. Delivery time frame will be negotiated between 15 and 120 days.
0009, 0014, 0019, 0029, 0034, 0039, 0049, 0054, 0059, 0068, 0073, 0078	To be delivered 7 days after date of delivery order.
0012AB	To Be delivered 45 days after date of the delivery order.
0015, 0016AA, 0016AB, 0016AD, 0017, 0018, 0035, 0036AA, 0036AB, 0036AD, 0037, 0038, 0055, 0056AA, 0056AB, 0056AD, 0057, 0058, 0074, 0075AA, 0075AB, 0075AD, 0076 & 0077	To be delivered 90 days after date of the delivery order.

52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (AUG 1996)

(a) The Contractor agrees to comply with the following FAR clauses, which are incorporated in this contract by reference, to implement provisions of law or executive orders applicable to acquisitions of commercial items:

(1) 52.222-3, Convict Labor (E.O. 11755); and
(2) 52.233-3, Protest After Award (31 U.S.C. 3553).

(b) The Contractor agrees to comply with the FAR clauses in this paragraph (b) which the contracting officer has indicated as being incorporated in this contract by reference to implement provisions of law or executive orders applicable to acquisitions of commercial items or components:

(*Contracting Officer shall check as appropriate*.)

☒ (1) 52.203-6, Restrictions on Subcontractor Sales to the Government, with Alternate I (41 U.S.C. 253g and 10 U.S.C. 2402).

☒ (2) 52.203-10, Price or Fee Adjustment for Illegal or Improper Activity (41 U.S.C. 423).

☒ (3) 52.219-8, Utilization of Small Business Concerns and Small Disadvantaged Business Concerns (15 U.S.C. 637 (d)(2) and (3)).

☒ (4) 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (15 U.S.C. 637 (d)(4)).

☐ (5) 52.219-14, Limitation on Subcontracting (15 U.S.C. 637 (a)(14)).

☒ (6) 52.222-26, Equal Opportunity (E.O. 11246).

☒ (7) 52.222-35, Affirmative Action for Special Disabled and Vietnam Era Veterans (38 U.S.C. 4212).

☒ (8) 52.222-36, Affirmative Action for Handicapped Workers (29 U.S.C. 793).

☒ (9) 52.222-37, Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212).

☐ (10) 52.225-3, Buy American Act - Supplies (41 U.S.C. 10).

☐ (11) 52.225-9, Buy American Act - Trade Agreements Act - Balance of Payments Program (41 U.S.C. 10, 19 U.S.C. 2501-2582).

☐ (12) [Reserved]

☐ (13) 52.225-18, European Union Sanction for End Products (E.O. 12849).

☐ (14) 52.225-19, European Union Sanction for Services (E.O. 12849).

☐ (15)(i) 52.225-21, Buy American Act - North American Free Trade Agreement Implementation Act - Balance of Payments Program (41 U.S.C. 10, Pub. L. 103-187).

☐ (15)(ii) Alternate I of 52.225-21.

☐ (16) 52.239-1, Privacy or Security Safeguards (5 U.S.C. 552a).

☐ (17) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (46 U.S.C. 1241).

(c) The Contractor agrees to comply with the FAR clauses in this paragraph (c), applicable to commercial services, which the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or executive orders applicable to acquisitions of commercial items or components:

(Contracting Officer check as appropriate.)

☐ (1) 52.222-41, Service Contract Act of 1965, As amended (41 U.S.C. 351, *et seq.*).

☐ (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (29 U.S.C. 206 and 41 U.S.C. 351, *et seq.*).

☐ (3) 52.222-43, Fair Labor Standards Act and Service Contract Act - Price Adjustment (Multiple Year and Option Contracts) (29 U.S.C. 206 and 41 U.S.C. 351, *et seq.*).

☐ (4) 52.222-44, Fair Labor Standards Act and Service Contract Act - Price Adjustment (29 U.S.C. 206 and 41 U.S.C. 351, *et seq.*).

☐ (5) 52.222-47, SCA Minimum Wages and Fringe Benefits Applicable to Successor Contract Pursuant to Predecessor Contractor Collective Bargaining Agreement (CBA) (41 U.S.C. 351, et. seq.).

(d) *Comptroller General Examination of Record*. The Contractor agrees to comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records - Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final

termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c) or (d) of this clause, the Contractor is not required to include any FAR clause, other than those listed below (and as may be required by an addenda to this paragraph to establish the reasonableness of prices under Part 15), in a subcontract for commercial items or commercial components--

(1) 52.222-26, Equal Opportunity (E.O. 11246);
(2) 52.222-35, Affirmative Action for Special Disabled and Vietnam Era Veterans (38 U.S.C. 2012(a));
(3) 52.222-36, Affirmative Action for Handicapped Workers (29 U.S.C. 793); and
(4) 52.247-64, Preference for Privately-Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241)(flow down not required for subcontracts awarded beginning May 1, 1996).

252.212-7001 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS (NOV 1995)

(a) The Contractor agrees to comply with the Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.247-7023, Transportation of Supplies by Sea, which is included in this contract by reference to implement 10 U.S.C. 2631.

(b) The Contractor agrees to comply with any clause that is checked on the following list of DFARS clauses which, if checked, is included in this contract by reference to implement provisions of law or Executive Orders applicable to acquisitions of commercial items or components.

☒	252.205-7000	Provision of Information to Cooperative Agreement Holders (10 U.S.C. 2416).
☐	252.206-7000	Domestic Source Restriction (10 U.S.C. 2304).
☐	252.219-7001	Notice of Partial Small Business Set-Aside with Preferential Consideration for Small Disadvantaged Business Concerns (☐ Alternate I) (Section 9004, Pub. L. 101-165 (10 U.S.C. 2301 (repealed) note)).
☐	252.219-7002	Notice of Small Disadvantaged Business Set-Aside (☐ Alternate I) (15 U.S.C. 644).
☒	252.219-7003	Small Business and Small Disadvantaged Business Subcontracting Plan (DoD Contracts) (15 U.S.C. 637).
☒	252.219-7005	Incentive for Subcontracting with Small Businesses, Small Disadvantaged Businesses, Historically Black Colleges and Universities and Minority Institutions (☐ Alternate I) (Section 9004, Pub. L. 101-165 (10 U.S.C. 2301 (repealed) note)).
☐	252.219-7006	Notice of Evaluation Preference for Small Disadvantaged Business Concerns (☐ Alternate I) (15 U.S.C. 644).
☒	252.225-7001	Buy American Act and Balance of Payment Program (41 U.S.C. 10, E.O. 10582).
☐	252.225-7007	Trade Agreements (10 U.S.C. 2501-2582).
☒	252.225-7012	Preference for Certain Domestic Commodities.
☐	252.225-7014	Preference for Domestic Specialty Metals (10 U.S.C. 2241 note).
☐	252.225-7015	Preference for Domestic Hand or Measuring Tools (10 U.S.C. 2241 note).
☐	252.225-7017	Preference for United States and Canadian Valves and Machine Tools (10 U.S.C. 2534(c)(2)).
☐	252.225-7027	Limitation on Sales Commissions and Fees (12 U.S.C. 2779).
☐	252.225-7028	Exclusionary Policies and Practices of Foreign Governments (22 U.S.C. 2755).
☐	252.225-7029	Restriction on Acquisition of Air Circuit Breakers (10 U.S.C. 2534(a)(3)).
☐	252.225-7036	North American Free Trade Agreement Implementation Act.
☒	252.227-7015	Technical Data--Commercial Items (10 U.S.C. 2320).

☐	252.227-7037	Validation of Restrictive Markings on Technical Data (10 U.S.C. 2321).
☒	252.233-7000	Certification of Claims and Requests for Adjustment or Relief (10 U.S.C. 2410).
☐	252.242-7002	Submission of Commercial Freight Bills for Audit (31 U.S.C. 3726).
☐	252.247-7024	Notification of Transportation of Supplies by Sea (10 U.S.C. 2631).
☒	252.249-7001	Notification of Substantial Impact on Employment (10 U.S.C. 2501 note).

OPTIONAL CLAUSES AND PROVISIONS

(*Contracting Officer shall check as appropriate*.)

☒ **DFARS 252.225-7000 BUY AMERICAN ACT - BALANCE OF PAYMENTS PROGRAM CERTIFICATE (DEC 1991)**

(a) *Definitions*

"Domestic end product," "qualifying country end product" and "nonqualifying country end product" have the meanings given in the Buy American Act and Balance of Payments Program clause of this solicitation.

(b) *Evaluation.*

Offers will be evaluated by giving preference to domestic end products and qualifying country end products over nonqualifying country end products.

(c) *Certifications.*

(1) The Offeror certifies that--

(i) Each end product, except those listed in paragraphs (c)(2) or (3) of this clause, is a domestic end product; and

(ii) Components of unknown origin are considered to have been, produced or manufactured outside the United States or a qualifying country.

(2) The Offeror certifies that the following end products are qualifying country end products:

Qualifying Country End Products

Line Item Number Country of Origin

_____ _____
_____ _____
_____ _____
(List only qualifying country end products.)

(3) The Offeror certifies that the following end products are nonqualifying country end products:

Nonqualifying Country End Products

Line Item Number Country of Origin (If Known)

_____ _____
_____ _____
_____ _____

52.212-3 OFFEROR REPRESENTATIONS AND CERTIFICATIONS--COMMERCIAL ITEMS (JAN 1997)

(a) *Definitions*. As used in this provision:

"Emerging small business" means a small business concern whose size is no greater than 50 percent of the numerical size standard for the standard industrial classification code designated.

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and size standards in this solicitation.

"Small disadvantaged business concern" means a small business concern that--

(1) Is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business, having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and

(2) Has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian organization and which meets the requirements of 13 CFR Part 124.

"Women-owned small business concern" means a small business concern--

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

"Women-owned business concern" means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Taxpayer identification number (TIN) (26 U.S.C. 6050M). (1) *Taxpayer Identification Number (TIN).*

☐ TIN: _____
☐ TIN has been applied for.
☐ TIN is not required because:
☐ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;
☐ Offeror is an agency or instrumentality of a foreign government;
☐ Offeror is an agency or instrumentality of a Federal, state, or local government;
☐ Other. State basis. _____

(2) *Corporate Status*.

☐ Corporation providing medical and health care services, or engaged in the billing and collecting of payments for such services;
☐ Other corporate entity;
☐ Not a corporate entity:
☐ Sole proprietorship
☐ Partnership
☐ Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(3) *Common Parent*.

☐ Offeror is not owned or controlled by a common parent:
☐ Name and TIN of common parent:
Name _____

TIN _____

(c) Offerors must complete the following representations when the resulting contract is to be performed inside the United States, its territories or possessions, Puerto Rico, the Trust Territory of the Pacific Islands, or the District of Columbia. Check all that apply.

(1) *Small business concern*. The offeror represents as part of its offer that it ☐ is, ☐ is not a small business concern.

(2) *Small disadvantaged business concern*. The offeror represents that it ☐ is, ☐ is not a small disadvantaged business concern.

(3) *Women-owned small business concern*. The offeror represents that it ☐ is, ☐ is not a women-owned small business concern.

Note: Complete paragraphs (c)(4) and (c)(5) only if this solicitation is expected to exceed the simplified acquisition threshold.

(4) *Women-owned business concern*. The offeror represents that it ☐ is, ☐ is not, a women-owned business concern.

(5) *Tie bid priority for labor surplus area concerns*. If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price: _____

(6) *Small Business Size for the Small Business Competitiveness Demonstration Program and for the Targeted Industry Categories under the Small Business Competitiveness Demonstration Program.* [*Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.*]

(i) *(Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the four designated industry groups (DIGs).)* The offeror represents as part of its offer that it ☐ is, ☐ is not an emerging small business.

(ii) *(Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or four designated industry groups (DIGs).)* Offeror represents as follows:

(A) Offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

(B) Offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts).

(Check one of the following):

Number of Employees		Average Annual Gross Revenues	
_____	50 or fewer	_____	$1 million or less
_____	51 - 100	_____	$1,000,001 - $2 million
_____	101 - 250	_____	$2,000,001 - $3.5 million
_____	251 - 500	_____	$3,500,001 - $5 million
_____	501 - 750	_____	$5,000,001 - $10 million
_____	751 - 1,000	_____	$10,000,001 - $17 million
_____	Over 1,000	_____	Over $17 million

(d) *Certifications and representations required to implement provisions of Executive Order 11246* --

(1) *Certification of non-segregated facilities. (Applies only if the contract amount is expected to exceed $10,000)*--

By submission of this offer, the offeror certifies that it does not and will not maintain or provide for its employees, any facilities that are segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise

and that it does not and will not permit its employees to perform their services at any location where segregated facilities are maintained. The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

(2) *Previous Contracts and Compliance*. The offeror represents that--

(i) It ☐ has, ☐ has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order 10925, or the clause contained in Section 201 of Executive Order 11114; and

(ii) It ☐ has, ☐ has not, filed all required compliance reports.

(3) *Affirmative Action Compliance*. The offeror represents that--

(i) It ☐ has developed and has on file, ☐ has not developed and does not have on file, at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR Subparts 60-1 and 60-2), or

(ii) It ☐ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) *Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352).* (Applies only if the contract is expected to exceed $100,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract.

(f) *Buy American Act--Trade Agreements--Balance of Payments Program Certificate*. (Applies only if FAR clause 52.225-9, Buy American Act-Trade Agreement - Balance of Payments Program, is included in this solicitation.)

(1) The offeror hereby certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product (as defined in the clause entitled "Buy American Act - Trade Agreements--Balance of Payments Program") and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States, a designated country, a North American Free Trade Agreement (NAFTA) country, or a Caribbean Basin country, as defined in section 25.401 of the Federal Acquisition Regulation.

(2) Excluded End Products:

LINE ITEM NO.	COUNTRY OF ORIGIN
_____	_____
_____	_____

(List as necessary)

(3) Offers will be evaluated by giving certain preferences to domestic end products, designated country end products, NAFTA country end products, and Caribbean Basin country end products over other end products. In order to obtain these preferences in the evaluation of each excluded end product listed in paragraph (f)(2) of this provision, offerors must identify and certify below those excluded end products that are designated or NAFTA country end products, or Caribbean Basin country end products. Products that are not identified and certified below will not be deemed designated country end products, NAFTA country end products, or Caribbean Basin country end products. Offerors must certify by inserting the applicable line item numbers in the following:

(i) The offeror certifies that the following supplies qualify as "designated or NAFTA country end products" as those terms are defined in the clause entitled "Buy American Act - Trade Agreements - Balance of Payments Program:"

_____
_____
_____

(Insert line item numbers)

(ii) The offeror certifies that the following supplies qualify as "Caribbean Basin country end products" as that term is defined in the clause entitled "Buy American Act - Trade Agreements - Balance of Payments Program":

_____
_____
_____
(Insert line item numbers)

(4) Offers will be evaluated in accordance with FAR Part 25.

(g)(1) *Buy American Act - North American Free Trade Agreement Implementation Act--Balance of Payments Program.* (Applies only if FAR clause 52.225-21, Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program, is included in this solicitation.)

(i) The offeror certifies that each end product being offered, except those listed in paragraph (g)(1)(ii) of this provision, is a domestic end product (as defined in the clause entitled "Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program," and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States.

(ii) Excluded End products:

LINE ITEM NO.	COUNTRY OF ORIGIN
_____	_____
_____	_____

(List as necessary)

(iii) Offers will be evaluated by giving certain preferences to domestic end products or NAFTA country end products over other end products. In order to obtain these preferences in the evaluation of each excluded end product listed in paragraph (g)(1)(ii) of this provision, offerors must identify and certify below those excluded end products that are NAFTA country end products. Products that are not identified and certified below will not be deemed NAFTA country end products. The offeror certifies that the following supplies qualify as "NAFTA country end products" as that term is defined in the clause entitled "Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program":

_____
_____
_____
(Insert line item numbers)

(iv) Offers will be evaluated in accordance with Part 25 of the Federal Acquisition Regulation. In addition, if this solicitation is for supplies for use outside the United States, an evaluation factor of 50 percent will be applied to offers of end products that are not domestic or NAFTA country end products.

(2) *Alternate I.* If Alternate I to the clause at 52.225-21 is included in this solicitation, substitute the following paragraph (g)(1)(iii) for paragraph (g)(1)(iii) of this provision:

(g)(1)(iii) Offers will be evaluated by giving certain preferences to domestic end products or Canadian end products over other end products. In order to obtain these preferences in the evaluation of each excluded end product listed in paragraph (b) of this provision, offerors must identify and certify below those excluded end products that are Canadian end products. Products that are not identified and certified below will not be deemed Canadian end products.

The offeror certifies that the following supplies qualify as "Canadian end products" as that term is defined in the clause entitled "Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program":

_____
(Insert line item numbers)

(h) *Certification Regarding Debarment, Suspension or Ineligibility for Award (Executive Order 12549).* The offeror certifies, to the best of its knowledge and belief, that--

(1) The offeror and/or any of its principals ☐ are, ☐ are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency, and

(2) ☐ Have, ☐ have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to

obtain, or performing a Federal, state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and ☐ are, ☐ are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses.

252.212-7000 OFFEROR REPRESENTATIONS AND CERTIFICATIONS--COMMERCIAL ITEMS (NOV 1995)

(a) *Definitions.*

As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec. 2415).

(2) "United States person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concern, as determined under regulations of the President.

(b) *Certification.*

By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take action, with respect to the Secondary Arab Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec. 2407(a) prohibits a United States person from taking.

(c) *Representation of Extent of Transportation by Sea.* (This representation does not apply to solicitations for the direct purchase of ocean transportation services.)

(1) The Offeror shall indicate by checking the appropriate blank in paragraph (c)(2) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term "supplies" is defined in the Transportation of Supplies by Sea clause of this solicitation.

(2) Representation.

The Offeror represents that it--

☐ Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

☐ Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(3) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense Federal Acquisition Regulation Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

SECTION L -PROPOSAL INSTRUCTIONS TO OFFERORS

CLAUSE L-100 PERFORMANCE RISK ASSESSMENT

(NOTE: Proposals that fail to contain the information requested in this clause may be rejected by the government).

The offeror shall submit a description of up to five (5) previous government contracts (prime and major subcontracts) received, or in performance during the past (3) years which are in any way relevant to the effort required by this solicitation. The information shall be submitted using Attachment E.

NOTE: Offerors are reminded that both independent data and data provided by offerors in their proposals may be used to evaluate past performance. Since the government may not necessarily interview all of the sources provided by the offerors, it is incumbent upon the offeror to explain the relevance of the data provided. The government does not assume the duty to search for data to cure problems it finds in proposals. The burden of providing thorough and complete past performance information remains with the offerors. Proposals that do not contain the information requested by this paragraph risk rejection or high risk rating by the government.

L.1 Background. As a result of this solicitation the government intends to award one or more contracts for the issuance of indefinite delivery, indefinite quantity (IDIQ) delivery orders to purchase digital, UHF band radios, antennas, and RF power amplifiers. This solicitation addresses three distinct equipment:

1. Radio with conditioned diphase adapter and remote control unit,
2. Antenna, and
3. RF power amplifier.

Offerors are encouraged to submit proposals on any one, or any combination, of equipment listed above. A contract (or contracts) will be awarded to that contractor (or contractors) that provide the best value for the government. Only one contract will be awarded per equipment or combination of equipment, i.e., only one radio contract will be awarded or one radio and RF power amplifier contract will be awarded. If an offeror submits a proposal for a combination of items, the offeror should clearly address each component separately first with regard to capabilities, cost, and delivery and then indicate the value of the combination of equipment and the changes to price, if any. Price issues are to be discussed in the cost proposal only. Whether separate contracts covering individual equipment or a contract covering more than one equipment is awarded will depend on what is offered to the government and what presents the best value.

L.2 Purpose - The purpose of the evaluation process is to enable the Government to evaluate technical information concerning proposed equipment, to evaluate proposed prices, and to select one or more offerors whose offers represent the best value to the Government, price and other factors considered. Proposals will be evaluated in a four-stage process, and different information will be evaluated in each stage:

a. For Stage 1, the Technical Evaluation Board (TEB) will evaluate information provided by the offeror to determine whether the proposed equipment meets, or offers better than, each of the required characteristics listed in paragraph 2 of the referenced specifications, and to determine whether the offeror makes a clear commitment to meeting the required delivery schedules. The TEB will assign "YES/NO" or "MEETS MINIMUM/DOES NOT MEET MINIMUM" ratings, with no "extra credit" in Stage 1 for offering more than the minimum requirements. Proposals which do not clearly demonstrate compliance with any required characteristic, or which fail to make a clear commitment to the required delivery schedules, shall be removed from further consideration for award.

b. For Stage 2, the TEB will evaluate information provided by the offeror, and from other sources, to evaluate the offeror's Experience relative to its competitors, and to evaluate Past Performance to determine the offeror's relative capability, trustworthiness, and reliability of promises. The TEB will assign subjective, but unbiased, adjectival risk assessments, ranging from "LOW RISK" to "HIGH RISK". Offerors who receive a "HIGH RISK" rating may be considered for removal from further consideration for award.

c. For Stage 3, the TEB will evaluate the offeror's response to the sub-factors listed in paragraphs L.10 through L.20 to determine relative worth rankings of both the offered equipment and the offeror's equipment support. The TEB will assign subjective, but unbiased, adjectival assessments, ranging from "MARGINAL" to "OUTSTANDING". Offerors who receive a "MARGINAL" rating for any of the Stage 3 Evaluation Factors may be considered for removal from further consideration for award. The radio offerors will provide an oral presentation for stage 3 while the antenna and RF power amplifiers offerors will provide written responses. The radio offerors may elect to provide handout materials, to display the proposed equipment, or to demonstrate the proposed equipment during their oral presentations.

d. For Stage 4, the TEB will develop a combined assessment of the Stage 2 and 3 ratings, and submit written recommendations to the Contract Acquisition Review Panel (CARP). The CARP will review the TEB recommendations, evaluate prices, and make written award recommendations to the Source Selection Authority (SSA). The SSA will review the award recommendations to ensure compliance with the RFP, and then will make the determination for award.

L.3 Incorporation of Written and Oral Promises and Descriptions of Features - Written promises and descriptions of features are considered to be part of the offeror's proposal, and will be considered as mandatory requirements after award. Oral promises and descriptions of features

are considered to be part of the offeror's proposal, and will be considered as mandatory requirements after award. However, the Government will require written confirmation of any oral promises.

L.4. Removal of Offerors - The Government reserves the right to remove offerors whose proposals do not provide requested information, or whose proposals do not conform to the specified proposal requirements, from consideration for award.

L.5 Exceptions - Offerors are encouraged not to take exceptions to this solicitation; however, any exceptions taken to the specifications, delivery schedules, or other terms and conditions of this solicitation shall be set forth in a cover letter included in both the Stage 1 proposal and in the Business Proposal. The cover letter must explain the exceptions in detail, and must refer to the specific pages, paragraphs, clauses, or sections to which each exception is taken.

L.6 Price Information - Do not include price information in the Stage 1, 2, or 3 proposals.

L.7 Stage 1 Proposal Requirements -

a. Offeror may submit any combination of brochures, product literature, illustrations, charts, graphs, letters, photographs, executive summaries, or other materials. There is a limit of 20 pages of such written materials each for the antenna, 25 pages for the amplifier, and 30 pages for the radio. Each printed side of a brochure or fold-out will be considered as one page. Offerors are encouraged to underline or highlight the submitted materials to emphasize the required characteristics, but should be careful that the added markings do not obscure other information.

b. All materials submitted in the Stage 1 proposal shall be securely bound in binders which will allow the TEB members to remove pages as needed for evaluation.

c. Because the Stage 1 Evaluation is limited to determining whether the proposed equipment meets the minimum required characteristics, and to whether the offeror intends to meet the required delivery schedules. Elaborate Stage 1 proposals are not necessary. Offerors are encouraged to use existing materials as much as possible. In Stage 1, there is no "extra credit" for offering more than the minimum requirements.

d. The burden is solely on the offeror to select and submit information which clearly indicates compliance with each of the minimum required characteristics listed in the antenna specification C.3, the amplifier specification C.4, and the radio specification C.2, which are included in this solicitation.

e. The burden is solely on the offeror to make a clear commitment to meeting the required delivery schedules.

f. Do not include classified information in the Stage 1 proposal.

g. If offeror elects to propose a less-than-fully-functional radio under sub-CLIN 0001AB (see note in sub-CLIN description) to meet the accelerated delivery schedule, the TEB will evaluate the full-functional radio in Stages 1 and 3 of the Evaluation Plan. Offeror shall provide the following information:

(1) A firm commitment to provide an upgrade kit to provide full functionality, within the required delivery schedule of sub-CLIN 0001AA. If the upgrade kit is not fully user-installable, describe the installation procedure and necessary tools and tests to be performed.

(2) What capabilities will the "less-than-fully-functional" radio not have when delivered?

(3) What additional capabilities will the upgrade kit provide?

(4) How will the upgraded radio differ in operation, capability, and configuration from radios delivered under sub-CLIN 0001AA?

L.8 Stage 2 Proposal Requirements -

a. General

(1) A significant achievement, problem, or lack of relevant data in any element of the Stage 2 proposal can become an important consideration in the Level of Confidence Assessment Rating (LOCAR) process. A negative finding under any Factor or Sub-Factor may result in an overall low LOCAR. Therefore, offerors are encouraged to include all relevant past efforts, including explanations of any corrective actions taken.

(2) If an offeror has no past relevant contract experience or performance information to present for a LOCAR Factor or Sub-Factor, that offeror will not be evaluated favorably or unfavorably, but will be ranked as "Neutral" for that Factor or Sub-Factor.

(3) Offerors should take care that customer points of contact identified in descriptions of experience are listed with current addresses and telephone numbers, and that the customer points of contact are expecting to be contacted during the evaluation process. Offerors are cautioned that a customer point of contact's refusal to provide requested information or opinions could easily be misinterpreted as customer dissatisfaction. If offeror knows that the named point of contact will not provide information, offeror should explain fully in the description of experience.

(4) The Government reserves the right to decide whether to collect LOCAR information in writing (letters, questionnaires, or email), or by telephone or personal interview. If telephone or personal interviews are conducted, the interviewers will take notes during the interviews. If telephone interviews are conducted, the Government reserves the right to use contractor employees to collect data for scripted questionnaires; otherwise, only Government personnel will collect the data.

(5) LOCAR information which is provided for work performed and completed prior to Dec 31, 1991 will not be considered in the LOCAR rating, and should not be included in the Stage 2 proposals.

(6) The Government intends to award a contract without discussions, as provided in FAR 15.601(a). Nevertheless, the Government may communicate with offerors to clarify, or verify, LOCAR information.

(7) An offeror's experience and past performance as a subcontractor will be evaluated on the same basis as if the offeror had been a prime contractor, but only to the extent of the actual work performed as a subcontractor.

(8) If requested information is not known, state "UNKNOWN".

(9) Incomplete information, or misrepresentations of the amount of, or the level of, actual work performed may result in a "High Risk" or "Unacceptable Risk" rating.

(10) There are no format requirements for Stage 2 proposals. Offerors are encouraged to use the same format for each of their listed contracts.

(11) There is a limit of 25 pages for Stage 2 proposals. Each printed side of a brochure or fold-out will be considered as one page. Stage 2 proposals shall be securely bound in binders which will allow the TEB members to remove pages as needed for evaluation.

(12) Do not include classified information in the Stage 2 proposal.

b. Stage 2 Information To Be Provided -

(1) Proposed Equipment - List contracts for the proposed equipment.

(2) Similar Equipment - List contracts for similar equipment, and explain clearly how the similar equipment differs from the proposed equipment.

(3) Specific Data for Each Listed Contract :

(a) Customer (Organization Name and Address)

(b) Customer Contracting Officer/Buyer Point of Contact (Name and Phone Number)

(c) Customer Technical Point of Contact (Name and Phone Number)

(d) Contract Number and/or Order Number

(e) Award Date

(f) Completion Date

(g) Offeror Point of Contact to Clarify Contract Information in the Stage 2 Proposal

(h) Offeror Point of Contact to Clarify Technical Information in the Stage 2 Proposal

(i) Quantities

(j) Contracted and Actual Days from Award to Delivery - explain slippages and corrective actions

(k) Were delivered equipment rejected for any reason? - explain rejections and corrective
actions, and provide Customer Point of Contact information concerning any rejections

(l) Was work as a prime contractor or as a subcontractor? If as a subcontractor, provide technical point of contact information for the prime contractor's customer.

(4) General Contract Data

(a) Have you received "show cause" notices from customers? If so, explain the circumstances, corrective actions, and results. Include point of contact information for the issuer.

(b) Have you been terminated for default under U.S. Government contracts? If so, explain the circumstances, corrective actions, and results. Include point of contact information for the Contracting Officer who terminated the contract.

(c) Have any of your contracts with non-Government organizations been terminated for default, late delivery, etc.? If so, explain the circumstances, corrective actions, and results. Include point of contact information for the organization which terminated the contract.

L.9 Stage 3 Proposal Requirements - Offerors who are still under consideration for award after the Stage 2 Review will be evaluated with respect to Stage 3 Sub-Factors using the adjectival ratings listed in the Evaluation Plan (see paragraph M.12). Radio offerors will make oral presentations addressing the stage 3 sub-factors while antenna and RF power amplifier offerors will submit written stage 3 subfactor responses with their stage 1 written material. The antenna will be limited to 20 pages and the RF power amplifier will be limited to 25 pages for the stage 3 written response.

a. Order of Presentation - Offerors are encouraged to present information in the order that the Evaluation Factors and Sub-Factors are listed in paragraph L.10 through L.20, pages 68 through 72). Offerors may freely vary the order of the presentation, but offerors are

cautioned that, since the TEB will use note-taking forms in this order, variations could easily be misunderstood as being less than clear.

b. No Classified Information - Do not include classified information in the Stage 3 written or oral presentation or in any handout material. Do not display classified hardware. Do not demonstrate classified software. Do not demonstrate classified features of the equipment.

c. Reliability of Predictions and Statements - For each Sub-Factor, a clear explanation of how the offeror knows the explanations and statements to be reasonably accurate is important to complete technical understanding and informed evaluation. Offeror should take care to address relevant questions, such as: What tests have been performed on what equipment, by whom, when, and with what results?; What military or commercial standards, at what levels, were used in the design or testing, or have been applied to the equipment? The key point to remember is that an explanation of a prediction or statement may be as important as the prediction or statement itself; for example, offeror may have performed tests on the proposed equipment, performed tests on similar equipment, done an engineering analysis, analyzed repair parts usage data, or done a "seat-of-the-pants" estimate, etc. Tests performed or witnessed by Government or commercial customers, or by independent test laboratories, may be perceived as more credible than tests performed solely by offeror's employees.

d. Copies of Test Reports - Offerors are encouraged not to provide copies of multi-page test reports. For the Stage 3 evaluation, the TEB will rely on unequivocal oral or written statements that a particular test was performed, and that the results are accurately presented. However, the Government reserves the right to request such copies during technical discussions, if any are held. The Government also reserves the right to request such copies after contract award, until the expiration date of the contract. Offerors are cautioned that, after award, failure to provide requested copies of test reports which were mentioned in the Stage 3 evaluation, or test reports which do not confirm the presented information will result in termination of the contract for default.

e. Evaluation of Written Materials - In the Stage 3 evaluation, the TEB will consider written materials submitted for the Stage 1 evaluation along with any written materials submitted for the Stage 3 evaluation.

f. Oral Presentations - The following directions refer to the radio oral presentations only.

(1) Contractor's Burden - The purpose of the oral presentations is to allow the offerors to present requested information so the TEB members can make informed judgments about each of the stated evaluation factors and sub-factors. The burden is solely on the offeror to present clear, relevant information in sufficient detail, within the ground rules listed in the Evaluation Plan. Note that the scoring adjectives are based not only on the technical details of the information, but also on how clearly and convincingly the information is presented.

(2) Handouts - If offeror believes that written materials, such as copies of Viewgraphs, brochures, etc., would be useful as part of the oral presentation, offeror must submit five copies of each item to arrive at least two working days before the scheduled presentation. When the presentation is scheduled, offeror will be given mailing instructions to submit the materials (there may be multiple addresses). There is a limit of 30 pages; this page limit is in addition to the page limit for the Stage 1 proposal. During the presentation setup time, offeror may provide up to [10% of the limit] replacement pages of written material if the changes are clearly indicated on the replacement pages. Offerors are reminded that the evaluation rating adjective definitions include how clearly the information is presented; difficult-to-read copies or written materials should be avoided. Offerors should avoid costly, unnecessarily elaborate written materials.

(3) Equipment Displays or Demonstrations - The offeror is free to decide whether to display or demonstrate proposed or similar equipment as part of the oral presentation. The Evaluation Plan establishes ground rules for such displays or demonstrations.

(4) Decline of Oral Presentation Opportunity - Since the purpose of the oral presentation is to give the offeror the opportunity to present information for the evaluation by the TEB (see subparagraph a. above), the offeror is free to decline the opportunity. If offered an opportunity to make an oral presentation (see paragraph E.4.1.9 above), an offeror may freely elect one of the following options:

(a) Accept the opportunity, and make the oral presentation in accordance with the ground rules established in the Evaluation Plan, and within the Stage 3 Proposal Requirements. The TEB will then evaluate the offeror's oral presentation, written materials, and displays or demonstrations (if done), in accordance with Stage 3 of the Evaluation Plan.

(b) Decline (in writing to the Contracting Officer) to make an oral presentation, and submit written materials which address the Stage 3 Evaluation Plan Factors and Sub-Factors. There is a limit of 30 pages for the radio; this page limit is in addition to the page limit for the Stage 1 proposal. The TEB will then evaluate written material in accordance with Stage 3 of the Evaluation Plan.

(c) Decline to make an oral presentation, and make a written statement to the Contracting Officer that the Stage 1 written proposal is also intended for use in the Stage 3 evaluation. The TEB will then evaluate the written materials in accordance with the Evaluation Plan.

(d) Offerors are cautioned that decline of the opportunity to make an oral presentation may result in unintentional consequences, such as:

1 Loss of an opportunity to make face-to-face clarifications in response to TEB questions about the presentation, and displays or demonstrations (if done).

2 TEB perception that the responses to the Factor and Sub-Factors may be less clear or less convincing.

3 TEB perception that the proposed equipment may not yet actually exist, and that reliance on promised delivery dates may entail more risk.

4 TEB technical misunderstandings of the equipment features being offered, and their value to the Government.

5 TEB misunderstandings of the level of contractor support being offered, and its value to the Government.

L.10 Stage 3 Factor 1 - Environmental Suitability - The following information is requested for the Sub-Factors in Factor 1:

a. Sub-Factor 1.1 - Shock and Vibration - How does your equipment minimize or eliminate service interruptions in case of severe shock which may be encountered during battle conditions? Under what levels of shock will your equipment maintain complete operation or lose what capabilities? How well does your equipment function, considering the normal shipboard shock and vibrations which may occur at any time?

b. Sub-Factor 1.2 - Temperature Extremes and Equipment Cooling - Over what ambient temperature range will your equipment operate properly? If the ambient temperature is outside this range for an indefinite period of time: Will your equipment continue to operate properly or in a degraded mode?; Will your equipment be damaged?; If your equipment shuts down or operates in a degraded mode, will it recover to full operation without operator or maintenance intervention? For the amplifier and radio: How have you considered other equipment which may be mounted in the same rack? How is your equipment cooled or heated?

c. Sub-Factor 1.3 - Exposure to weather, including lightning, salt spray, fog, rain, solar radiation, wind, and ice - How suitable is your equipment for the physical shipboard weather environment, including lightning, salt spray, fog, rain, solar radiation, wind, and ice in which the equipment may be carried, shipped, stored, or used? If your equipment is intended only for use in a sheltered environment, describe the allowable ambient environmental constraints. [NOTE: Even equipment intended for sheltered environment may accidentally be exposed to the weather while being installed or carried to and from the ship.]

d. Sub-Factor 1.4 - Noise Generation (for Antenna, respond "NOT APPLICABLE") - How much noise (sound levels) will your equipment produce when it is operating in the rack, and when it is being maintained or tested partly or all the way out of the rack? How have you minimized the noise?

e. Sub-Factor 1.5 - Accidents (spilled coffee, litter, "user-proof", etc.) - How does your design protect your equipment against common accidents?

f. Sub-Factor 1.6 - EMI and Stray Magnetic Fields - How reliably does your equipment operate, considering the physical shipboard environment of extensive potential EMI and Stray magnetic fields? How does your equipment minimize or eliminate generation of EMI or magnetic fields which may interfere with other equipment?

L.11 Stage 3 Factor 2 - Contractor Support - The following information is requested for the Sub-Factors in Factor 2:

a. Sub-Factor 2.1 - Configuration Management - How do you maintain configuration management for the proposed equipment? What configuration information will be provided to the Government, and when? How will an equipment maintainer's organization be assured of getting the correct repair parts for a specific serial-numbered equipment? How will you identify specific serial-numbered equipment which might share a quality or operational problem discovered during production, and after delivery? For how many years will you maintain the records? What portions of your equipment, such as repair parts, units, or assemblies, are supported in the DOD stock system, if any? How do you ensure both forward and backward compatibility of changes, and how do you notify customers of limitations on Interchangeability? What configuration records do you currently maintain for military or commercial customers? Will you provide configuration information at no charge to Government personnel trying to resolve supply support problems?

b. Sub-Factor 2.2 - Technical Manuals and Maintenance Procedures - Describe the technical manuals you will provide for operation and maintenance of the equipment. If you are proposing digital manuals, specify the minimal and optimal computer requirements to use them. Outline the contents of each proposed manual, and describe briefly the level of detail in each major section of each manual. To what levels of experience, education, and training are your manuals written? How do you incorporate "lessons learned" or errors discovered by your employees or by customers, and how do you tell other customers?

c. Sub-Factor 2.3 - Training - Describe the training you will provide for operation and maintenance of the equipment. What are the learning objectives and prerequisites for each recommended course? Describe how much of each course is "hands-on" with actual or simulated equipment, and how much is primarily "book-oriented".

d. Sub-Factor 2.4 - Warranty - What are the coverage and terms of your warranty? What incidental expenses, such as labor, lost time, etc. does it cover? Who pays for shipping returned and replacement items to and from users who could, literally, be world-wide? What turn-around times are you promising?

e. Sub-Factor 2.5 - Testing (including special test equipment and tools) - How will you test your equipment to ensure compliance with all requirements, whether specified as minimum required characteristics, or as promised by you in your proposal? What test reports will you provide to the Government, and when? What trouble-shooting, repair, and maintenance tests

do you expect to be performed by what level of trained shipboard personnel or shore-side Navy support personnel? List the tools and test equipment necessary to perform these tests.

L.12 Stage 3 Factor 3 - Physical Characteristics - The following information is requested for the Sub-Factors in Factor 3: (NOTE: Requested information is different for the Antenna, Amplifier, and Radio.)

L.13 Stage 3 Factor 3A (Antenna only) -

a. Sub-Factor 3A.1 - Mounting - Describe the crated and uncrated size and weight of the antenna, and describe the installation procedure you recommend.

b. Sub-Factor 3A.2 - Color - What color is the antenna, under what color number, under what color system?

L.14 Stage 3 Factor 3B (Amplifier Only) -

a. Sub-Factor 3B.1 - Package Size and Weight - Describe the crated and uncrated size and weight of the amplifier.

b. Sub-Factor 3B.2 - Color - What color is the amplifier front panel , under what color number, under what color system?

L.15 Stage 3 Factor 3C (Radio Only) -

a. Sub-Factor 3C.1 - Package Size and Weight - Describe the crated and uncrated size and weight of the radio.

b. Sub-Factor 3C.2 - Color - What color is the radio front panel, under what color number, under what color system?

c. Sub-Factor C.3 - Connectors - Describe the connectors, and provide ordering numbers and at least two sources for the mating connectors. Is each connector: keyed?; furnished with a captive locking mechanism?; not plastic construction?; EMI protected?; suitable for shipboard environment?; strain relieved?; and clearly labeled? Do power connectors have female pins on the “hot” side only? Are the mating connectors “not proprietary”, and readily available from at least two sources?

L.16 Stage 3 Factor 4 - General Equipment Design - The following information is requested for the Sub-Factors in Factor 4:

a. Sub-Factor 4.1 - Upgrades/Improvements and Level of Technology - Describe your equipment in terms of the level of technology when compared to your competitors and the general trend of your industry. How do you keep your product line up-to-date? How will you inform the Government of available upgrades or improvements? How do you envision

use of the "Technology Improvements" clause in the solicitation? Describe future upgrades and improvements currently in planning, and when they might be available. If your equipment uses firmware, is the firmware user-replaceable for upgrades and improvements?

b. Sub-Factor 4.2 - Survivability, including "single-point" failures - How have you designed your equipment to maintain function in battle condition? How have you minimized or eliminated the effect of "single-point" failures in your equipment?

c. Sub-Factor 4.3 - Reliability, Availability, and Life Expectancy - How reliable can the Government expect your equipment to be? What is the expected lifetime of your equipment?

d. Sub-Factor 4.4 - Software Failure Recovery (Radio only, for Antenna and Amplifier, respond "NOT APPLICABLE") - How reliable can the Government expect the radio's software to be? In case of software failure, does software recovery to full operation require operator or maintainer intervention? Does recovered operation resume in the same modes as before the failure? How long does it take to recover fully?

e. Sub-Factor 4.5 - Cold Start-Up Times - How long does it take to start up your equipment in any arbitrarily chosen available mode from a cold start?

f. Sub-Factor 4.6 - Safety of Installation, Maintenance, and Use - How safe is your equipment to install, operate, and use? What safety precautions must be taken? How are these precautions communicated to installers, maintainers, and operators, as well as to their supervisors? What military and commercial safety standards, at what levels, does your equipment meet, and which does it not meet?

g. Sub-Factor 4.7 - BIT/BITE - Describe any Built-In Tests (BIT) and Built-In Test Equipment (BITE) in your equipment. Describe what is being tested. Are these tests run automatically? Do the tests interfere with operation; if they do, can they be stopped instantly? When faults are found, how does your equipment notify the user or maintainer? Describe the lowest level of faulty assembly or components that the BIT/BITE will detect and indicate.

h. Sub-Factor 4.8 - Ease of Use - Describe operating procedures for your equipment. What have you done to make them as easy to learn and implement as possible?

i. Sub-Factor 4.9 - Ease of Maintenance - Describe maintenance procedures for your equipment. What have you done to make them as easy to learn and implement as possible? What is the underlying maintenance philosophy (such as "use BITE to locate and replace faulty modules", or "use oscilloscope to compare to patterns in tech manual", etc.)? What do you consider to be the "Lowest Repairable Units" for the shipboard maintainer and for a depot maintainer? [NOTE: The Government has made no decisions whether to establish, or where to establish, what kind of a depot, if any.]

L.17 Stage 3 Factor 5 - Specific Equipment Design - The following information is requested for the Sub-Factors in Factor 5: (NOTE: Requested information is different for the Antenna, Amplifier, and Radio.)

L.18 Stage 3 Factor 5A - (Antenna Only) -

a. Sub-Factor 5A.1 - Frequency - Over what frequency range will your antenna operate and still comply with the other required characteristics and your promised characteristics? If the antenna can be operated over a wider frequency range, how will radio communications be affected?

b. Sub-Factor 5A.2 - Gain - Describe the vertical gain pattern. How does your design optimize ship-to-shore communications from a rolling, pitching, and yawing ship?

c. Sub-Factor 5A.3 - Polarization - Describe your antenna polarization. How does your design optimize ship-to-shore communications from a rolling, pitching, and yawing ship to shore units with vertically polarized antennas?

L.19 Stage 3 Factor 5B - (Amplifier Only) -

a. Sub-Factor 5B.1 - Noise Figure - What noise figure do you expect from your amplifier? How does your design minimize adverse effects on communications? Are there operating techniques which will maximize effective communications?

b. Sub-Factors 5B.2 - Spurious Signals and Harmonics - Describe the level of spurious signals and harmonics you expect from your amplifier. How does your design minimize adverse effects on communications? Are there operating techniques which will maximize effective communications?

c. Sub-Factor 5B.3 - Fault Indicators - What fault indicators are provided? Are fault notifications in code (such as “1224,D7.X5G2”, etc.) or in plain language with helpful hints?

d. Sub-Factor 5B.4 - Remote Control Capability - Does your design provide remote control capability? Is any required additional equipment included in your price for the amplifier? How many of what kind of batteries are required, and how long will they last? What functions are available on the remote unit?

e. Sub-Factor 5B.5 - Power Conservation and Efficiency - Describe how much electrical power your equipment requires in each operating mode. How does your design minimize overall electrical power consumption?

L.20 Stage 3 Factor 5C - (Radio Only) -

a. Sub-Factor 5C.1 - Additional Interoperabilities with Other Radios - List all known military radios currently in use in NATO countries with which your radio will interoperate in

any available mode. Are there optional modules or other configurations which will interoperate with additional radios, and are they listed in your price proposal [NOTE: Do not include prices in this response.]

b. Sub-Factor 5C.2 - Additional Interfaces - Describe available interfaces, beyond the required minimum, such as RF Baseband, Controls, Monitoring, etc. How are these of benefit to the Government?

c. Sub-Factor 5C.3 - Additional Crypto Interfaces - - Describe available interfaces, beyond the required minimum, such as to an additional crypto device, and indicate whether your radio provides full interface capability, or describe interface limitations.

d. Sub-Factor 5C.4 - Additional EEOW Interfaces - Describe available interfaces, beyond the required minimum. How are these of benefit to the Government?

e. Sub-Factor 5C.5 - Additional Modes - Describe available modes, beyond the required minimum. How are these of benefit to the Government?

f. Sub-Factor 5C.6 - Extended Frequency Range - Describe the full frequency range over which the radio will operate with full capabilities, including both the required characteristics and your promised characteristics. Describe any further extended frequency range over which the radio might operate, and describe operational limitations.

g. Sub-Factor 5C.7 - Tunability - Describe the available channel spacings.

h. Sub-Factor 5C.8 - Better Frequency Separation - Describe the limitations on transmit/receive frequency separation.

i. Sub-Factor 5C.9 - Additional Data Rates - Describe available data rates, beyond the minimum required.

j. Sub-Factor 5C.10 - Additional Data Formats - Describe available data formats, beyond the minimum requirements.

k. Sub-Factor 5C.11 - Better Image Rejection - Describe the expected image rejection. Are there operating techniques to optimize effective communications?

l. Sub-Factor 5C.12 - Remote Control Capability - Does your design provide remote control capability? Is any required additional equipment included in your price for the amplifier? How many of what kind of batteries are required, and how long will they last? What functions are available on the remote unit?

m. Sub-Factor 5C.13 - Alternate Power Sources - Describe available alternate electrical power sources, besides the required 115 VAC source. Are these available as part of the proposed equipment, or are they available as user-replaceable modules?

n. Sub-Factor 5C.14 - Power Conservation and Efficiency - Describe how much electrical power your equipment requires in each operating mode. How does your design minimize overall electrical power consumption?

o. Sub-Factor 5C.17 - Antijam - Describe any antijam features in terms of how effective they are to optimize effective communications.

p. Sub-Factor 5C.18 - Better Frequency Stability - Describe expected frequency stability under all expected operating conditions.

q. Sub-Factor 5C.19 - Conditioned Diphase Interface Adapter - If available, describe a conditioned diphase interface adapter and what data rates it will support.

r. Sub-Factor 5C.20 - Transmission Control Protocol/Internet Protocol (TCP/IP) - If available, describe how the radio might be used in a system using the TCP/IP protocol.

SECTION M - EVALUATION CRITERIA AND BASIS FOR AWARD (BEST VALUE)

M-422 EVALUATION OF PERFORMANCE RISK (Tailored)

1. During the source selection process, the government will assess the relative risks associated with each offeror's performance risk.

   a. Performance risks are those associated with an offeror's likelihood of success in performing the solicitation's requirements as indicated by the offeror's record of past performance.

2. The government will conduct a performance risk assessment based upon the quality of the offeror's past performance as well as that of its proposed subcontractors (if applicable), as it relates to the probability of successful accomplishment of the required effort. When assessing performance risk, the government will focus inquiry on the past performance of the offeror and its proposed subcontractors as it relates to all solicitation requirements, such cost, schedule and performance, including the contractor's record of conforming to specifications nd to standards of good workmanship; the contractor's record of containing and forecasting costs on any previously performed cost reimbursable contracts; the cotnrecto's adherence to contract schedules, including the administrative aspect of performance. Performance risk will be assigned adjectives of LOW PERFORMANCE RISK, MODERATE PERFORMANCE RISK, NEUTRAL, HIGH PERFORMANCE RISK AND UNACCEPTABLE, depending on information obtained in Attachment E.

3. A significant achievement, problem, or lack of relevant data in any element of the work can become an important consideration in the source selection process. A negative finding under any element may result in an overall high performance risk rating resulting in a potential reduction of

the offerors overall rating. Therefore, offerors are reminded to include all relevant past efforts, including demonstrated corrective action, in their proposal. Offerors who have no performance record will be given a moderate or neutral rating.

4. Offerors are cautioned that in conducting the performance risk assessment, the government may use data provided by the offeror in its proposal and data obtained from other sources. Since the Government may not necessarily interview all of the sources provided by the offerors, it is incumbent upon the offer to explain the relevance of the data provided. Offerors are reminded that while the government may elect to consider data obtained from other sources, the burden of providing thorough and complete past performance information rests with the offerors.

M-550 PAST PERFORMANCE (Tailored)

(a) The offeror must submit the information requested on Attachment E to enable evaluation based on the factors listed below. The following factors will be considered in addition to price.

-Timeliness of Performance/Delivery

-Quality of Product, including the offeror's record of conforming to specifications and to the standards of good workmanship.

-Customer (end user), Satisfaction, including the offeror's history for reasonable and cooperative behavior and commitment to customer satisfaction and business like concern for the interest of the customer.

-Cost Control

-Business Practices, including the offeror's management, planning and scheduling of subcontracts on past contracts.

(b) The government will assess each offeror's past performance. The assessment will be a subjective, but unbiased, judgment about the quality of an offeror's past performance. The Government will use its subjective assessment to determine an offeror's relative capability and trustworthiness, and thus the relative reliability of the offeror's promises. The determination of which offeror is the best value will reflect both the value of offerors' promises and the reliability of those promises as determined, in part, by their past performance. Thus, the Government may value an offeror with LOW RISK record of past performance more highly than an offeror whose past performance is MODERATE RISK, even though the offeror with the MODERATE RISK record made better promises in its proposal.

(c) The Government may base its judgment about the quality of an offer's past performance on (1) records of objective measurements and subjective rating of specified performance attributes, if available, and (2) statements of opinion about the quality of specific aspects of

an offerors's performance or about the quality of an offeror's overall performance. The Government may solicit information from an offeror's customers and business associates; federal, state, and local government agencies, and from other persons and organizations. The Government reserves the right to limit the number of references it decides to contact and to contact references other than those provided by the offeror.

(d) The performance attributes which the Government will assess include, for example: the offeror's record of conforming to contract requirements, including the administrative aspects of performance; the offeror's reputation for good workmanship; the offeror's record of forecasting and controlling costs; the behavior and commitment to customer satisfaction; and, generally, the offeror's reputation for demonstrating a business-like concern for the interests of its customers.

M.1 - BEST VALUE EVALUATION

a. The Government reserves the right to make a single award to the responsible offeror whose offer conforms to the solicitation and which represents the best overall expected value, delivery schedule, cost/price, other factors and level of confidence assessment data considered.

b. The Government reserves the right to make split awards to more than one offeror of any combination of CLINs which represents the best overall expected value, delivery schedule, cost/price, other factors and level of confidence considered. Seperate awards for the Radio, Antenna and RF Power Amplifier are possible.

c. Prospective offerors are forewarned that an acceptable proposal with the lowest price may not be selected if award to a higher priced proposal affords the Government a greater overall expected value. The Government reserves the right to elect to pay a price premium to select a technically superior offeror(s) who can meet the reduced schedule requirements of the initial delivery.

d. The Stage 1 is a Pass/Fail. Stage 2 and Stage 3, Evaluation Plan ratings, (which are of equal importance), when combined in Stage 4, are moderately more important than price, but price should not be ignored. Price is an important component of the award selection.

e. Offers received will be evaluated by the Government on the basis of price, delivery schedule, information received from multiple sources during the Stage 2 LOCAR evaluation, and on the basis of information provided by the offeror in Stages 1 and 3, in accordance with clause L.2, "Instructions for Submitting Proposal" of this solicitation.

f. The Government reserves the right to remove offerors whose proposals do not provide requested information, or whose proposals do not conform to the specified format, from consideration for award.

M.2 Evaluation Procedures - Proposals will be evaluated by a four-stage process. Each stage will accomplish a separate purpose, leading to a recommendation for contract award. Proposals for the antenna, amplifier, and radio will be considered separately throughout the evaluation process.

M.3 Stage 1 Review - The Stage 1 Review will consist of the detailed evaluation of the Stage 1 written proposals to determine whether the proposed items meet the stated minimum requirements, and to determine whether the offeror can meet the required delivery schedule. The Stage 1 Review will be conducted on a "MEETS MINIMUMS" or "DOES NOT MEET MINIMUMS" basis to determine whether or not the proposals clearly meet the required characteristics listed in each of the referenced specifications, and on a "YES" or "NO" basis to determine whether or not the proposals indicate a clear commitment to meeting the required delivery schedules. The Technical Evaluation Board (TEB) will make its findings by unanimous consensus of the TEB members.

M.4 Stage 1 Evaluation Criteria:

1. Antenna - Does the proposed antenna meet each of the "Required Characteristics" listed in the Antenna specification C.3?

2. Antenna - Does the offeror indicate that the required delivery schedule will be met for each of the Antenna CLINs and sub-CLINs?

3. Amplifier - Does the proposed amplifier meet each of the "Required Characteristics" listed in the Amplifier specification C.4?

4. Amplifier - Does the offeror indicate that the required delivery schedule will be met for each of the Amplifier CLINs and sub-CLINs?

5. Radio - Does the proposed radio meet each of the "Required Characteristics" listed in the Radio specification C.2?

6. Radio - Does the offeror indicate that the required delivery schedules will be met for the Radio CLINs and sub-CLINs?

M.5 Removal of Offerors - After the Stage 1 Review, Offerors who are determined not to meet any one of the stated minimum requirements and/or cannot meet the required delivery schedule may be considered for removal from future consideration. The Government reserves the option not to consider removals of offerors at this stage of the evaluation process. Offerors will be notified if they are no longer under consideration for award. The Government reserves the right to review or revise the Stage 1 ratings, based on new or additional information received during later stages of the Evaluation Plan or during technical discussions (if held).

M.6 Offeror's Burden - The burden is solely on the offeror to select and submit information which clearly indicates compliance with each of the minimum required characteristics listed in the antenna specification C.3, the amplifier specification C.4, and the radio specification C.2,

which are attached to this solicitation. The burden is solely on the offeror to make a clear commitment to meeting the required delivery schedules.

M.7 Stage 2 Review - The Stage 2 review will consist of development of a Level of Confidence Assessment Rating (LOCAR) for each offeror remaining inside the range for consideration after the Stage 1 Review. The LOCAR may be highly influential in the determination of which offeror represents the best overall expected value. The government will evaluate the depth, breadth, relevance, and currency of the offeror's relevant experience. The Government will also evaluate the offeror's reputation for conforming to specifications and standards of good workmanship, for accurately estimating and controlling costs, for reasonable and cooperative behavior and commitment to customer satisfaction, and for having a business-like concern for the interests of the customer. The TEB will make its findings by unanimous consensus of the TEB members.

M.8 Adjective Ratings - Offerors' LOCARs will be rated using the following adjective ratings:

Low Performance Risk - Predominantly favorable Level of Confidence Assessment Rating (LOCAR) based on reports of experience/past performance.

Moderate Performance Risk - More favorable than unfavorable LOCAR based on reports of experience/past performance.

Neutral - No record of experience/past performance or inconclusive record. Indicates neither favorable nor unfavorable assessment.

High Performance Risk - More unfavorable than favorable LOCAR based on reports of experience/past performance.

Unacceptable - Predominantly unfavorable LOCAR based on reports of experience/past performance.

M.9 LOCAR Evaluation Factors -

LOCAR Factor 1 - Experience (NOTE: No Sub-Factors for this Factor)

a. Purpose - The Government will evaluate each offeror's experience relative to its competitors. The evaluation will be a subjective, but unbiased, assessment of the offeror's experience with work of similar nature, scope, complexity, and difficulty to that which must be performed under the prospective contract contemplated by this solicitation. The objective of the evaluation is to determine the degree to which the offeror has previously encountered the kinds of work, uncertainties, challenges, and risks that it is likely to encounter under the prospective contract, and to develop insight into the offeror's relative capability and the relative risk associated with contracting with the offeror.

b. Evaluation Basis - The LOCAR evaluation of experience will be based primarily--but not necessarily entirely--on the information on the data provided by the offeror in its proposal. The Government reserves the right to consider information from sources other than those provided by the offeror. The Government also reserves the right to decide not to contact all of the references provided by the offeror.

LOCAR Factor 2 - Past Performance

a. Purpose - The Government will assess each offeror's past performance. The assessment will be a subjective, but unbiased, judgment about the quality of an offeror's past performance. The Government will use its subjective assessment to determine an offeror's relative capability and trustworthiness, and thus the relative reliability of the offeror's promises. The determination of which offeror is the best value will reflect both the value of offerors' promises and the reliability of those promises as determined, in part, by their past performance. Thus, the Government may value an offeror with a superior record of past performance more highly than an offeror whose past performance is satisfactory, even though the offeror with the satisfactory record made better promises in its proposal.

b. Evaluation Basis - The Government may base its judgment about the quality of an offeror's past performance on: (1) records of objective measurements and subjective ratings of specified performance attributes, if available; and (2) statements of opinion about the quality of specific aspects of an offeror's performance, or about the quality of an offeror's overall performance. The Government may solicit information from an offeror's customers and business associates; federal, state, and local government agencies; and from other persons and organizations. The Government reserves the right to limit the number of references it decides to contact and to contact references other than those provided by the offeror. The performance attributes which the Government will assess include, for example: the offeror's record of conforming to contract requirements, including the administrative aspects of performance; the offeror's reputation for good workmanship; the offeror's record of forecasting and controlling costs; the offeror's record for adhering to contract schedules; the offeror's reputation for reasonable and cooperative behavior and commitment to customer satisfaction; and, generally, the offeror's reputation for demonstrating a business-like concern for the interests of its customers.

c. Sub-Factors -

Subfactor 2.1- Customer Satisfaction - Offeror's customers report reasonable and cooperative behavior, commitment to customer satisfaction, and business-like concern for the interests of the customer.

Subfactor 2.2 - Quality of Product - Offeror's technical customers report satisfactory conformance to specfications/statements of work and to standards of good workmanship.

Subfactor 2.3 - Timeliness of Performance/Delivery - Offeror's customers report timely deliveries per contractual requirements.

Subfactor 2.4 - Business Practices - Offeror's customers report satisfactory management, planning and scheduling of work on prime contracts, and satisfactory coordination of subcontractor efforts (if any).

Subfactor 2.5 - Technical Documentation - Offeror's technical customers report satisfactory technical documentation delivered for similar equipment.

Subfactor 2.6 - Equipment Performance - Offeror's technical customers report satisfactory operational performance and support of similar equipment.

Subfactor 2.7 - Contractual Compliance - Customers' Contracting Officers (or buyers) report satisfactory compliance with contractual requirements other than equipment performance.

M.10 Removal of Offerors - After completion of the Stage 2 Review, Offerors who are determined to have High Performance Risk LOCAR ratings may be considered for removal from future consideration. The Government reserves the option not to consider removals of offerors at this stage of the evaluation process. Offerors will be notified if they are no longer under consideration for award. The Government reserves the right to review or revise the Stage 2 ratings, based on new or additional information received during later stages of the Evaluation Plan or during technical discussions (if held).

M.11 Stage 3 Review - The stage 3 review will consist of technical evaluations of the stage 3 sub-factors listed in the following sections. Radio offerors have the option to present their responses to the stage 3 subfactors either orally or in writing by declining the oral presentation opportunity. The antenna and RF power amplifier offerors shall submit their responses to the stage 3 subfactors in writing in their stage 1 responses. Note that the evaluation plan is essentially similar for proposed antennas, amplifiers, and radios; differences are noted below. The TEB will assign an adjectival rating to each Factor and Sub-Factor, and an overall proposal rating, by unanimous consensus of the TEB members.

M.12 Stage 3 Scoring Adjectives - The adjectival ratings are defined as follows:

Outstanding - The offeror provides a very convincing argument that the Navy's requirements are met by the offeror's display of the highest levels of innovation, technical competence, and managerial ability. Engineering analyses, technical discussions, diagrams, management plans, and task descriptions are described in detail, in accordance with accepted standards of excellence. The offeror clearly demonstrates technical and managerial plans and approaches that show a very high probability of meeting the Government's requirements with minimum risk.

Very Good - Analyses, approaches and planning considerations demonstrate that the offeror is able to interpret requirements and project them into plans/analyses, etc. in a

clear, concise manner. The offeror's analyses demonstrate a clear awareness of the interactions that influence system design, and its technical and planning efforts show strong promise of meeting the Government's requirements.

Acceptable - Plans, approaches, analyses, discussions, etc. are frequently provided only to the minimum extent requested, and the keys to pivotal points raised by the applicable evaluation factors were covered with minimum adequacy. The offeror presents an orderly plan to meet the requirements, but the proposal demonstrates few, if any, exceptional features and originality. The technical discussions and analyses have correct conclusions, but do not go into sufficient depth to demonstrate a keen awareness of interactions that influence system design. Confidence that the government's requirements will be met are neutral.

Marginal - The offeror indicates a shallow, or less than full, understanding of the requirements or operational considerations. Technical discussions and analyses are weak and may contain questionable conclusions. Design approach contains significant risk areas that may impact schedule and performance. Confidence that the Government's requirement will be met is marginal.

M.13 Stage 3 Evaluation Factors and Sub-Factors - The following Factors and Sub-Factors will be evaluated in the Stage 3 Evaluation (differences are noted as applicable for the antenna, amplifier, or radio). Note that the minimum requirements for some of these Sub-Factors were evaluated in the Stage 1 Review.

Factor 1 - Environmental Suitability

Sub-Factors

1.1 Shock and Vibration
1.2 Temperature Extremes and Equipment Cooling
1.3 Exposure to weather, including lightning, salt spray, fog, rain, solar radiation, wind, and ice
1.4 Noise generation (not evaluated for Antenna)
1.5 Accidents (spilled coffee, litter, "user-proof", etc.)
1.6 EMI and stray magnetic fields

Factor 2 - Contractor Support

Sub-Factors

2.1 Configuration Management
2.2 Technical Manuals and Maintenance Procedures
2.3 Training
2.4 Warranty
2.5 Testing, including special test equipment and tools

Factor 3 - Physical Characteristics (different for Antenna, Amplifier, and Radio)

Factor 3A - Physical Characteristics (for Antenna only)

Sub-Factors
- 3A.1 Mounting
- 3A.2 Color

Factor 3B - Physical Characteristics (for Amplifier only)

Sub-Factors
- 3B.1 Package Size and Weight
- 3B.2 Color

Factor 3C - Physical Characteristics (for Radio only)

Sub-Factors
- 3C.1 Package Size and Weight
- 3C.2 Connectors
- 3C.3 Color

Factor 4 - General Equipment Design

Sub-Factors
- 4.1 Upgrades/Improvements and Level of Technology
- 4.2 Survivability, including “single-point” failures
- 4.3 Reliability, Availability, and Life Expectancy
- 4.4 Software Failure Recovery (Radio only)
- 4.5 Cold Start-Up Times
- 4.6 BIT/BITE
- 4.7 Safety of Installation, Maintenance, and Use
- 4.8 Ease of Use and Maintenance

Factor 5 - Specific Equipment Design (different for Antenna, Amplifier, and Radio)

Factor 5A - Specific Equipment Design (for Antenna only)

Sub-Factors
- 5A.1 Frequency
- 5A.2 Vertical Beamwidth
- 5A.3 Polarization

Factor 5B - Specific Equipment Design (for Amplifier only)

Sub-Factors
- 5B.1 Noise Figure
- 5B.2 Spurious Signals and Harmonics
- 5B.3 Fault Indicators

5B.4 Remote Control Capability
5B.5 Power Conservation and Efficiency

Factor 5C - Specific Equipment Design (for Radio only)

Sub-Factors

5C.1 Additional Interoperabilities with Other Radios
5C.2 Additional Interfaces (RF Baseband, Controls, Monitoring, etc.)
5C.3 Additional Crypto Interfaces
5C.4 Additional EEOW Interfaces (Modem, Crypto, etc.)
5C.5 Additional Modes
5C.6 Extended Frequency Range
5C.7 Tunability (More Channels)
5C.8 Better Frequency Separation
5C.9 Additional Data Rates
5C.10 Additional Data Formats
5C.11 Better Image Rejection
5C.12 Remote Control Unit
5C.13 Alternate Power Sources
5C.14 Power Conservation and Efficiency
5C.15 Antijam

M.14 Conduct of Oral Presentations. The following pertains to the radio oral presentations only.

a. Allotted Times - In order to ensure that each offeror is given the same opportunity, the oral presentations will be timed, and stopped at the end of the allotted time periods. The allotted time periods include a 10-minute rest break every hour. During the radio presentations, a one-hour lunch break (not part of the allotted time periods) will be taken at a mutually-agreed time. In case of technical difficulties, such as power outages, tape failures, etc., the allotted time will be interrupted, and then resumed as soon as practical, without extending the allotted times. If an offeror ends the offeror's presentation period early, the TEB's allotted question period will be extended, up to the specified total allotted time. The TEB members will not ask technical questions during the offeror's presentation. If the TEB members do not use their full allotted question period, the presentation will be ended early.

Offeror's Presentation Time	4 hours maximum
TEB Question Time	2 hours maximum
TOTAL	6 hours maximum

b. Setup Time - Offerors will be given up to one hour for radio presentations.

c. Audio-Visual Equipment - The Government will provide one functioning Viewgraph projector for projection on a white wall; the offeror is free to use it or not. If an offeror wishes to use other audio-visual equipment, the offeror is free to bring it, set it up, and use it. Offerors are reminded that the evaluation rating adjective definitions include how clearly and

convincingly the information is presented. However, offerors should avoid costly, unnecessarily elaborate audio-visual materials.

d. Electrical Power - The Government will provide sufficient U.S. standard 120 VAC, 15 amp, electrical outlets for offeror's use. However, offeror must provide sufficient portable extension cords to reach outlets which may be as far as 50 feet away.

e. Equipment Displays - If an offeror believes that display of proposed equipment would be useful as part of the presentation, the offeror is free to bring the equipment and set it up on a government-provided table. The offeror is free to refer to the displays at any time during the offeror's presentation time. The offeror may choose whether to "open up" the equipment for close examination. The TEB members shall be allowed to physically handle and examine the equipment during the TEB's question period. If the offeror elects to display equipment which is similar to, but not identical to, the proposed equipment, the offeror must clearly identify the differences.

f. Equipment Demonstrations - If an offeror believes that a live or simulated demonstration of proposed equipment would be useful as part of the presentation, the offeror is free to bring the equipment and set it up on a government-furnished table. The offeror is free to refer to the equipment at any time during the offeror's presentation time. The offeror may choose whether to "open up" the equipment for close examination. The TEB members shall be allowed to physically handle and examine the equipment during the TEB's question period. The offeror is free to operate the equipment at any time during the offeror's presentation time. During the TEB's question period, offeror is free to decide whether to operate the equipment as requested by TEB members, and the offeror is free to decide whether to allow TEB members to operate the equipment. If equipment is to be demonstrated, the offeror shall provide all necessary cables, connectors, test equipment, equipment, etc. During the TEB's question period, the TEB members may request permission (and offeror may freely concur or not) to connect government-owned test equipment, such as Oscilloscope, Spectrum Analyzer, or Bit Error Rate Tester, using government-furnished cables and connectors. If the offeror elects to display equipment which is similar to, but not identical to, the proposed equipment, the offeror must clearly identify the differences.

g. Government Liability - The Government is not liable for the following, however caused:

(1) Damage or loss of offeror's property.
(2) Injury of offeror's personnel.
(3) Damage or loss of personal property belonging to offeror's personnel.

h. Recording of Presentations - The Government will videotape the presentations to provide a permanent record, unless unforeseen circumstances, such as equipment failure, make it impossible.

M.15 Removal of Offerors - After completion of the Stage 3 Review, Offerors who are determined to have "MARGINAL" Stage 3 ratings for one or more Evaluation Factors may be considered for removal from future consideration. The Government reserves the option not to

consider removals of offerors at this stage of the evaluation process. Offerors will be notified if they are no longer under consideration for award. The Government reserves the right to review or revise the Stage 3 ratings, based on new or additional information received during technical discussions (if held).

M.16 Stage 4 Review - The purpose of the Stage 4 Review is to evaluate and compare offers on the basis of price and the results of the Stage 1, 2, and 3 Reviews.

M.17 The TEB will review and develop a combined assessment of the Stage 1, Stage 2, and Stage 3 ratings, and will submit a written report and recommendations to the Contract Acquisition Review Panel (CARP).

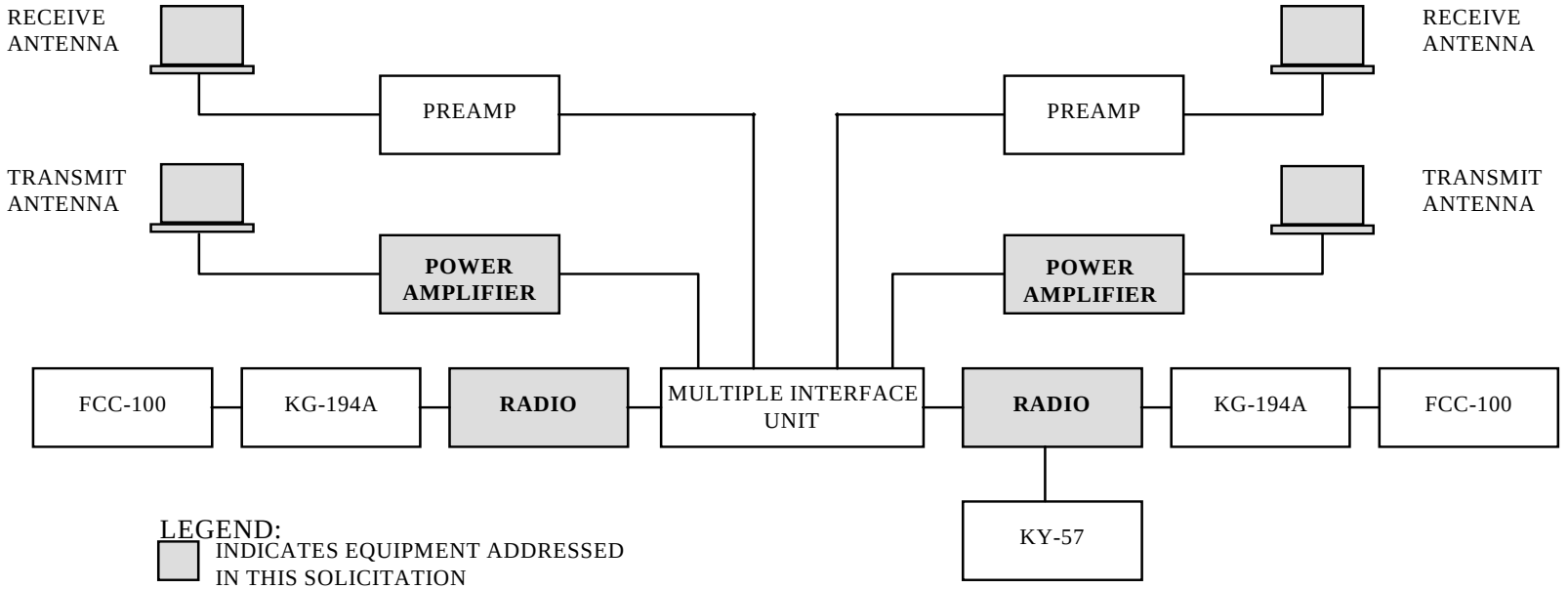
M.18 The CARP will review the written recommendations of the TEB and evaluate prices to make a written recommendation for award to the Source Selection Authority (SSA).

M.19 The SSA will review the recommendation to ensure that the evaluation process complied with the procedures delineated in the solicitation, and to make the determination for award consistent with the solicitation.

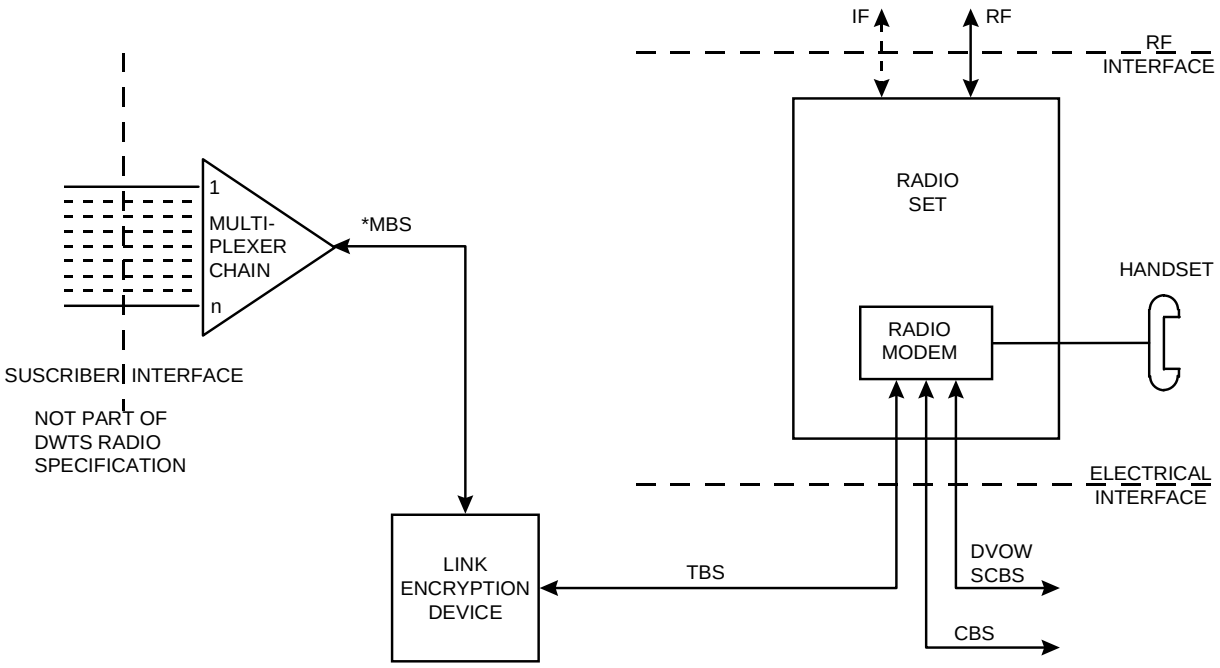
M.20 EVALUATION.

Evaluation of an offeror's proposal shall be based on the information presented in the proposal and information available to the contracting office from sources deemed appropriate. Sources typically considered include Defense Contract Audit Agency Office, Defense Contract Management Command, other contracts with same firms for similar items or services, known commercial sources such as Data Resources, Inc., Standard and Poor, etc. Proposals which are unrealistic in terms of inherent lack of technical competence, or indicative of a failure to comprehend the complexity and risks of the proposed work and may be grounds for rejection of the proposal. If the proposed contract requires the delivery of data, the quality of organization and writing reflected in the proposal will be considered to be an indication of the quality of organization and writing which would be prevalent in the proposed deliverable data. Subjective judgment on the part of the Government evaluators is implicit in the entire process.

DWTS SHIPBOARD CONFIGURATION



Attachment A - DWTS Shipboard

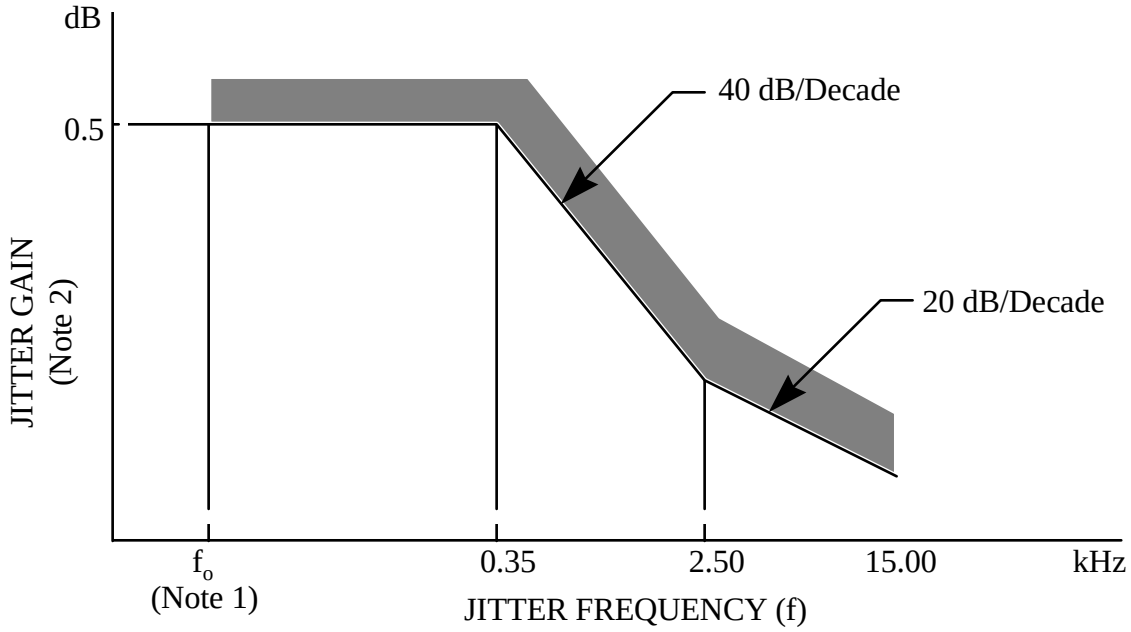


*NOTE: THIS MBS CAN BE AN AGGREGATE OF
TWO OR MORE LOWER RATE MISSION BIT STREAMS

LEGEND:

CBS	CLOCK BIT STREAM
MBS	MISSION BIT STREAM
SCBS	SERVICE CHANNEL BIT STREAM
TBS	TRANSMISSION BIT STREAM
DVOW	DIGITAL VOICE ORDERWIRE

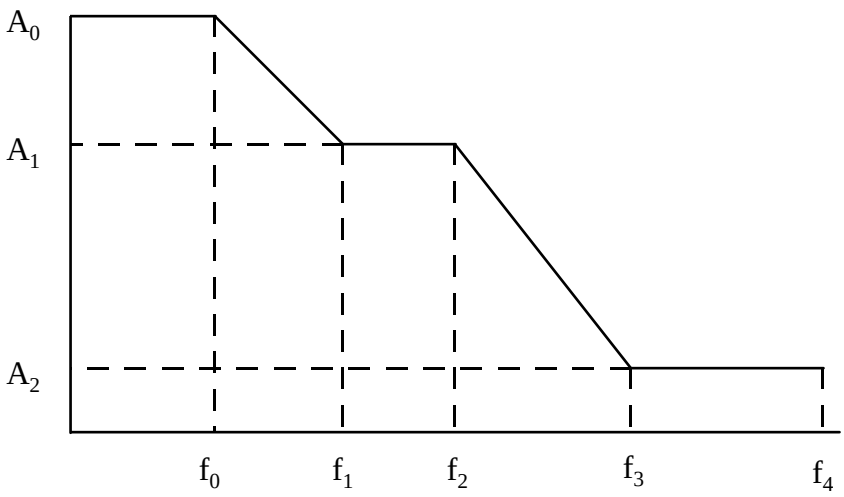
Attachment B - Digital Wideband Transmission System (DWTS) Radio Interface



Notes:

1. The frequency f_o should be as low as possible taking into account the limitations of measuring equipment.
2. Jitter gain is defined as the ratio of output jitter amplitude to input jitter amplitude.

Attachment C - 1544kb/s demultiplexer jitter transfer characteristic



MASK OF TOLERABLE SINUSOIDAL JITTER AND WANDER

Digital Equipment Input Jitter and Wander Tolerance

Parameter Values / Bit Rates (kb/s)	PEAK-TO-PEAK JITTER AMPLITUDE (UI) (Note 1)			FREQUENCY (Hz)				
	A_0 microseconds (Note 2)	A_1	A_2	f_0	f_1	f_2	f_3	f_4
1544	18	5.0	0.1	12×10^{-6}	10	500	8k	40k

Notes:
1. UI = Unit Interval
2. For 1544 kb/s, 18 microseconds = 28 UI

Attachment D - Tolerable jitter and wander mask

CONTRACTOR PERFORMANCE DATA SHEET

NOTE: THE INFORMATION PROVIDED MAY BE USED TO EVALUATE THE OFFEROR'S PAST PERFORMANCE IN MEETING COSTS/PRICE, TECHNICAL, AND DELIVERY OBJECTIVES. THE RESLULTS MAY BE USED IN THE OVERALL COMPARATIVE EVALUATION OF THE OFFEROR(S) IN ACCORDANCE WITH SECTION M OF THE REQUEST FOR PROPOSAL

Contractor Name: _____

Address: _____

_____

Division: _____

RFP#: _____

POC: (Person who can verify data) _____

Telephone: _____

Fax: _____

List Performance Data on your five most recently completed Federal Government contracts (not to exceed three years since completion) for like or similar items under this RFP. (If you do not have five Federal Government contracts, then list state, local or commercial contracts in that order, to complete this report)

CONTRACT INFORMATION

Contract Number: _____Date Completed:_____

Contract Type: ( ) Fixed Price ( ) Cost Reimbursement
( ) Other (Specify) _____

Nature of the Effort (Scope, Types of Tasks involved, Product/Service Provided):

Contract Quantity/ Length of Service: _____

Customer Name: _____

Address: _____

_____

Customer POC: (Person who can verify data) _____

Telephone: _____

Fax: _____

QUALITY

NOTE: An explanation must accompany all answers with an asterisk (*).

1. Was consideration or a monetary withhold for non-conforming supplies/services or late deliveries assessed against this contract?

Yes*_____ NO _____

Explanation: _____

_____

2. Was/is any part of this contract terminated for default and/or in litigation?

Yes*_____ NO _____

Explanation: _____

_____

3. Was any warranted work completed on delivered items?

Yes* _____ NO _____

Explanation: _____

_____

4. Did you receive any quality awards in the past three years?

Yes* _____ NO _____

List Awards: _____

_____

_____

TIMELINESS

NOTE: AN EXPLANATION MUST ACCOMPANY ALL ANSWERS WITH AN ASTERISK (*)

Were all items (including products, services, reports, etc.) delivered within the original contract schedule?

Yes* _____ NO _____

Explanation: _____

_____

APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION

CLASSIFICATION	DATE	FORM APPROVED OMB No. 0704-0188
UNCLASSIFIED		Page 1 of Pages

DOD GENERAL INFORMATION

TO Department of the Navy
Naval Electromagnetic Spectrum
Management Office CNO (N61F)
Washington, DC 20350

FROM

1. APPLICATION TITLE

2. SYSTEM NOMENCLATURE

3. STAGE OF ALLOCATION *(X one)*

a. STAGE 1 CONCEPTUAL **b. STAGE 2 EXPERIMENTAL** **c. STAGE 3 DEVELOPMENTAL** **d. STAGE 4 OPERATIONAL**

4. FREQUENCY REQUIREMENTS

a. FREQUENCY(IES)
b. EMISSION DESIGNATOR(S)

5. TARGET STARTING DATE FOR SUBSEQUENT STAGES

a. STAGE 2	b. STAGE 3	c. STAGE 4

6. EXTENT OF USE

7. GEOGRAPHICAL AREA FOR

a. STAGE 2

b. STAGE 3

c. STAGE 4

8. NUMBER OF UNITS

a. STAGE 2	b. STAGE 3	c. STAGE 4

9. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT

10 OTHER J/F 12 APPLICATION NUMBER(S) TO BE
a. SUPERSEDED J/F 12/
b. RELATED J/F 12/

11. IS THERE ANY OPERATIONAL REQUIREMENT AS DESCRIBED IN THE INSTRUCTIONS FOR PARAGRAPH 11?
a. YES b. NO c. NAvail

12. NAMES AND TELEPHONE NUMBERS

	(1) COMMERCIAL	(2) AUTOVON
a. PROGRAM MANAGER		
b. PROJECT ENGINEER		

13. REMARKS

DOWNGRADING INSTRUCTIONS	CLASSIFICATION	
N/A	UNCLASSIFIED	

DD Form 1494, FEB 87

CLASSIFICATION UNCLASSIFIED	PAGE of Pages

TRANSMITTER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.	2. MANUFACTURER'S NAME
3. TRANSMITTER INSTALLATION	4. TRANSMITTER TYPE
5. TUNING RANGE	6. METHOD OF TUNING
7. RF CHANNELING CAPABILITY	8. EMISSION DESIGNATOR(S)
9. FREQUENCY TOLERANCE	
10. FILTER EMPLOYED *(X one)* a. YES b. NO	
11. SPREAD SPECTRUM *(X one)* a. YES b. NO	12. EMISSION BANDWIDTH *(X and complete as applicable)* CALCULATED MEASURED
13. MAXIMUM BIT RATE	a. -3 dB
	b. -20 dB
14. MODULATION TECHNIQUES AND CODING	c. -40 dB
	d. -60 dB
	e. OC-BW
	15. MAXIMUM MODULATION FREQUENCY
16. PRE-EMPHASIS *(X one)* a. YES b. NO	17. DEVIATION RATIO
	18. PULSE CHARACTERISTICS
19. POWER	a. RATE N/A
a. MEAN	b. WIDTH
b. PEP	c. RISE TIME
20. OUTPUT DEVICE	d. FALL TIME
	e. COMP RATIO
	21. HARMONIC LEVEL
22. SPURIOUS LEVEL	a. 2nd
23. FCC TYPE ACCEPTANCE NO.	b. 3rd
	c. OTHER

24. REMARKS

CLASSIFICATION UNCLASSIFIED	

DD Form 1494, FEB 87

CLASSIFICATION UNCLASSIFIED	PAGE of Pages

RECEIVER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.	2. MANUFACTURER'S NAME
3. RECEIVER INSTALLATION	4. RECEIVER TYPE
5. TUNING RANGE	6. METHOD OF TUNING
7. RF CHANNELING CAPABILITY	8. EMISSION DESIGNATOR(S)
9. FREQUENCY TOLERANCE	

10. IF SELECTIVITY	1st	2nd	3rd	11. RF SELECTIVITY (X and complete as applicable)
a. -3 dB				CALCULATED MEASURED
b. -20 dB				a. -3 dB
c. -60 dB	N/A	N/A	N/A	b. -20 dB
				c. -60 dB

12. IF FREQUENCY	d. Preselection Type
a. 1st	13. MAXIMUM POST DETECTION FREQUENCY
b. 2nd	14. MINIMUM POST DETECTION FREQUENCY
c. 3rd	16. MAXIMUM BIT RATE

15. OSCILLATOR TUNED	1st	2nd	3rd	17. SENSITIVITY
a. ABOVE TUNED FREQUENCY				a. SENSITIVITY dBm
b. BELOW TUNED	X	X		b. CRITERIA
c. EITHER ABOVE OR				c. NOISE FIG Db

18. DE-EMPHASIS *(X one)* a. YES b. NO	d. NOISE TEMP Kelvin
19. IMAGE REJECTION	20. SPURIOUS REJECTION

21. REMARKS

CLASSIFICATION UNCLASSIFIED	

DD Form 1494, FEB 87

CLASSIFICATION UNCLASSIFIED	PAGE of Pages

ANTENNA EQUIPMENT CHARACTERISTICS

1.	a. TRANSMITTING	b. RECEIVING	c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.	3. MANUFACTURER'S NAME
4. FREQUENCY RANGE	5. TYPE
6. POLARIZATION	7. SCAN CHARACTERISTICS
	a. TYPE
8. GAIN	b. VERTICAL SCAN
a. MAIN BEAM	(1) Max Elev
b. 1st MAJOR SIDE LOBE	(2) Min Elev
	(3) Scan Rate
9. BEAMWIDTH	c. HORIZONTAL SCAN
a. HORIZONTAL	(1) Sector Scanned
b. VERTICAL	(2) Scan Rate
	d. SECTOR BLANKING *(X one)* (1) YES (2) NO

10. REMARKS

CLASSIFICATION UNCLASSIFIED	

DD Form 1494, FEB 87

APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION: UNCLASSIFIED	PAGE of Pages

NTIA GENERAL INFORMATION

1. APPLICATION TITLE

2. SYSTEM NOMENCLATURE

3. STAGE OF ALLOCATION *(X one)*

	a. STAGE 1 CONCEPTUAL	b. STAGE 2 EXPERIMENTAL	c. STAGE 3 DEVELOPMENTAL	d. STAGE 4 OPERATIONAL

4. FREQUENCY REQUIREMENTS

a. FREQUENCY(IES)
b. EMISSION DESIGNATOR(S)

5. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS (WARTIME USE) *(X one)* **a. YES b. NO**

6. INFORMATION TRANSFER REQUIREMENTS

7. ESTIMATED INITIAL COST OF THE SYSTEM

8. TARGET DATE FOR

a. APPLICATION APPROVAL	b. SYSTEM ACTIVATION	c. SYSTEM TERMINATION

9. SYSTEM RELATIONSHIP AND ESSENTIALITY

10. REPLACEMENT INFORMATION

11. RELATED ANALYSIS AND/OR TEST DATA

12. NUMBER OF MOBILE UNITS

13. GEOGRAPHICAL AREA FOR

a. STAGE 2

b. STAGE 3

c. STAGE 4

14. LINE DIAGRAM See page(s)	15. SPACE SYSTEMS See page(s)
16. TYPE OF SERVICE(S) FOR STAGE 4	17. STATION CLASS(ES) FOR STAGE 4

18. REMARKS

DOWNGRADING INSTRUCTIONS	CLASSIFICATION	
N/A	UNCLASSIFIED	

DD Form 1494, FEB 87

APPLICATION FOR FOREIGN SPECTRUM SUPPORT	CLASSIFICATION: UNCLASSIFIED	PAGE of Pages

FOREIGN COORDINATION GENERAL INFORMATION

1. APPLICATION TITLE

2. SYSTEM NOMENCLATURE

3. STAGE OF ALLOCATION *(X one)*

	a. STAGE 1 CONCEPTUAL	b. STAGE 2 EXPERIMENTAL	c. STAGE 3 DEVELOPMENTAL	d. STAGE 4 OPERATIONAL

4. FREQUENCY REQUIREMENTS

a. FREQUENCY(IES)

b. EMISSION DESIGNATOR(S)

5. PROPOSED OPERATING LOCATIONS OUTSIDE US&P

6. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS

7. INFORMATION TRANSFER REQUIREMENTS

8. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT

9. REPLACEMENT INFORMATION

10. LINE DIAGRAM See page(s)	11. SPACE SYSTEMS See page(s)

12. PROJECTED OPERATIONAL DEPLOYMENT DATE

13. REMARKS

DOWNGRADING INSTRUCTIONS	CLASSIFICATION	
N/A	UNCLASSIFIED	

DD Form 1494, FEB 87